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[Communicated.]

Gas Association Work.

The gas associations of this country now number 15, and there are 5 others, having in their membership those connected with electric lighting and motor industries, especially those of the tramway type. The Canadian Gas Association and the Natural Gas Association bring up the total to 22. Of these Associations 3 are National in scope, others covering either single or adjacent States.

The New England Association of Gas Engineers, justly termed the "mother of them all," is the oldest, having been formed in 1871. Of the other Associations six were started prior to 1904, as follows: Society of Gas Lighting, 1875. Guild of Gas Managers, 1880. Michigan and Pacific Coast Gas Associations, 1893. Missouri, 1897. Kansas, 1898. Wisconsin, 1900.

During the past 5 years 14 associations have been formed, and others are being tentatively considered. This marked increase in the number of associations, as well as in membership thereof, is in line with all the other important industries of the country and augurs well for the gas division thereof. The papers and the discussions therewith have increased in merit and broadened in scope rather than inducing any deterioration in quality, because of greater frequency; and the more frequent opportunities have caused many, with ideas of value, to set forth these, therein lending their aid in solving the ever-cropping out problems that are preplexing to the old ones, and almost mystifying to the beginners.

Membership in American Gas Associations.

Name of Association.	Date of Organization.	Initiation Fee.	Dues.	Members. Honorary.	Active.	Associate.	Total.	Plants. Represented.	Not Represented.
Am. Gas Inst..	1906	$15.00	$10.00	3	1,177*	253	1,433	..	..
Natl. Com.....	1905	.....	5.00	..	2,600	..	2,600	..	..
Illinois.....	1905	.....	5.00	1	167	135	303	60	15
Indiana.....	1908	.....	5.00	.	84	50	134	45	5
Iowa...	1905	3.00	3.00	1	90	40	131	86	16
Michigan.....	1893	....	3.00	6	151	111	168	45	8
New England..	1871	.....	....	6	137	92	235	..	..
New Jersey....	1911	**	**	..	...	..	.....	..	..
Ohio	1911	**	**	..	31	..	31	22	76
Pacific Coast...	1893	5.00	5.00	3	276	78	357	..	..
Pennsylvania..	1909	. ..	5.00	..	77	42	119	35	50
Southern	1908	5.00	5.00	..	78	46	124	27	60
Wisconsin....	1900	.....	3.00	..	100	53	153	..	..
Canadian	1908	5.00	10.00	..	45	57	102	60	12
Guild.....	1880	10.00	20.00	6	34	26	66	39	71
Society.....	1875	50.00	10.00	3	43	.	46	75	..
Empire State...	1905	10.00	***	..	75	7	82	47	..
Illuminating ..	1906	2.50	5.00	..	1,478	..	1,478	..	..
Kansas	1898	1.00	3.00	11	102	48	161	.	..
Missouri.....	1897	5.15	5.15	2	62	55	119	11	15
Southwestern..	1904	5.00	20.00	8	230	195	425	22	..
Natural.....	1906	5.00	5.00	5	528	29	562	..	..

* Includes Junior. ** Not determined as yet. *** Percentage basis.

Individual and Company Membership.—The membership of 20 of the 22 gas and affiliated associations is made up of individuals; in the other 2 one favors company membership only, the other inclining to company and individual members. These are respectively the Empire State and the Southwestern.

The Commercial and the Illuminating have only one class of members, all being considered active. The others have Honorary, Active and Associate classes, the exception being the Society of Gas Lighting, although it does maintain a sort of shadowy division, through having "Resident" and "Non-Resident" members. The Institute has, too, an additional class, entitled "Junior."

Dues.—The annual dues are, as a rule, purely nominal, ranging from $3 to $20 per annum. This is also the case regarding initiation fees, which charge varies in many instances. This fee, for instance, in the Society of Gas Lighting is $50.

In only one of the associations have arrangements been made for large receipts from annual dues, and this is in the case where the company membership is taxed according to the company's size or commercial showing. This feature is probably the one which needs the most attention at the present time, since large problems, allied either to research or publicity, require large sums of money, and this can be better obtained in the regular course of business than by means of assessment.

Publicity Work.—The situation in Great Britain, regarding the

question of obtaining funds for publicity work, amply shows the importance of making the scope of association work broad enough to include ease and facility in obtaining funds. For some time past efforts have been made to obtain from the gas undertakings of Great Britain funds to the amount of 2s. 6d. per million feet of gas made, and although many of the larger ones have responded, and it was only through much of earnest effort that this result has been accomplished at a comparatively slow pace, it will be some time before the work can be begun. Company membership in a national organization would likely solve the problem.

Membership Figures.—The membership figures show some curious things which, of course, cannot be taken on their face value, as an indication of the importance of the association. As is well known, the Commercial leads, with 2,600, followed by the Institute with 1,433. The largest of the Inter-State organizations is the Pacific Coast, with 357, and the largest State Association is the Illinois, with 303 members.

The total membership of all gas associations in the States is 5,900; to which might properly be added the Canadian, with 102 members.

The five combination associations have 2,265 and the natural gas 562, making a grand total of 8,829 members.

The number of individuals connected with the gas industry who are members of one or more association is probably over 4,000. This total, while of no mean proportion, is destined to be doubled before many years have passed, and one of the main reasons for such probability is that everyone of the associations is becoming more valuable to the fraternity individually and collectively. The associations which will increase the more rapidly will be those which have local branches where monthly or quarterly meetings are held.

Meetings.—At the present time the Commercial, the Illuminating Engineering and the Empire State hold either local or section meetings, in addition to their annual convention.

For the younger generation the work so admirably carried on by the Trustees of the Gas Educational Fund of the American Gas Institute can be well supplemented by local Association work. This work could be done to the best advantage were the local Associations affiliated with a national organization. The keynote of success here lies in an able body of *directors*, who could, and should, plan and assist in a regular yearly course of lectures. Should any one doubt the advisability or the feasibility of this plan, let him look to the methods used in the most successful annual schools in the country—the Sunday-school. While the subject remains the same, the application is laid out to suit the age and preparedness of the student, and we are all students to the end of our days.

Other Associations.—The growth of other important Associations during the past 5 years, in round figures, is as follows:

	1906.	1911.
National Electric Light Association....	900	9,000
Institute of Electrical Engineers	3,600	7,100
Society of Civil Engineers..	3,600	6,000

Representation.—Another method of judging the effectiveness of our gas organizations is the extent to which they cover their territory. From the figures which were reported the Indiana Association leads, with 45 out of 50 plants represented; and, in matters of public policy, this is the keynote of success. If the local managers realized this more fully the ranks of the State organizations would show great increases, and it is to be hoped that this will be the case during the coming season. It is a matter of importance to the whole fraternity, as a solid front over questions of public policy, unwise legislation and commission rulings, is essential to success.

Gas Shows.—In association work the question of gas shows is one of more importance and interest to the manufacturer than has heretofore been the case. Through the means of the exhibitions which have been held in recent years, he has had greater opportunities to assist the cause directly and indirectly, and they will undoubtedly continue to increase in favor. They will probably be of greater local character and more numerous, but the success which they have made insures their continuance.

Coming Conventions.—The months of September and October of this year will undoubtedly be notable for both number and attendance. It is probable that more gas men will gather together than during any similar period in the history of the industry. Five Associations hold their meetings within practically one month's time, and as none are to be held East of Detroit, Mich , the West will certainly have its innings.

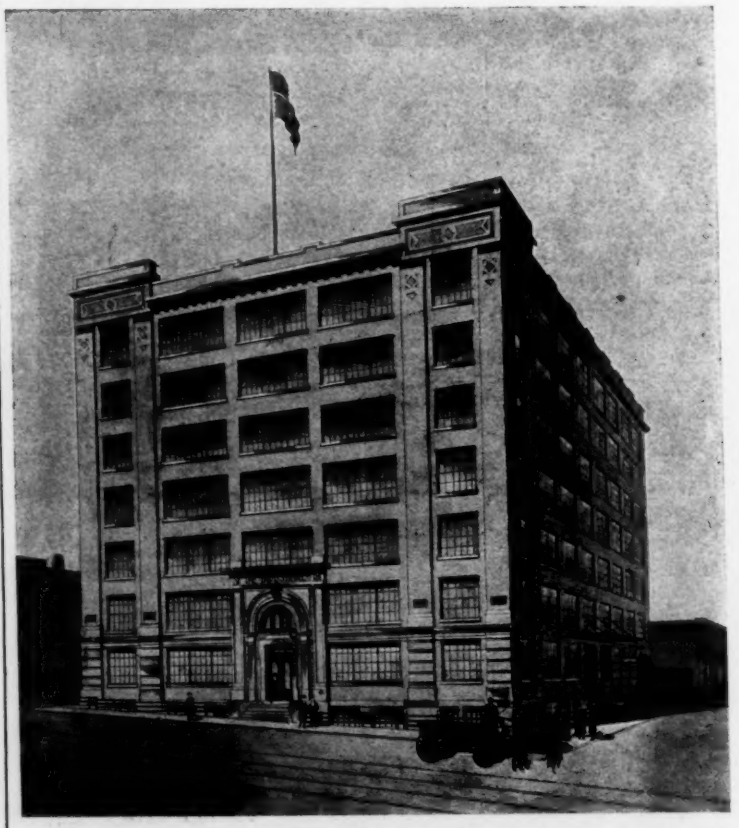
It is to be hoped that all of these meetings will show substantial increases in the numbers of members, so that the busy and earnest workers will be rewarded and encouraged and the whole industry benefited by the co-operation and assistance of an infusion of new blood.

[Communicated.]

Industrial Building at Baltimore, Md.

Acting upon the suggestion of Mr. J. E. Aldred, President of the Consolidated Gas, Electric Light and Power Company, and of the Pennsylvania Water and Power Company, as well as a large number of the leading business men of Baltimore, have formed a Company for the purpose of erecting a building to provide first class facilities for small manufacturers. The concern is known as "The Industrial Building Company, of Baltimsre," and the building which is now under construction will be known as "The Industrial Building." It will be a 7-story and basement, steel frame, concrete structure.

The demand for such a building, and its evident value to the community, prompted Mr. Aldred's suggestion, which was first made at a meeting of the Board of Directors of the Consolidated Gas, Electric Light and Power Company. The suggestion was heartily indorsed by the press and a committee of 24 business men was formed. This committee included three representatives from the 7 leading commercial organizations of the city and 3 from the light and power companies. The suggestion was laid before this committee by Mr. Aldred, who stated that the Consolidated Gas, Electric Light and Power Company, and the Pennsylvania Water and Power Company would guarantee one-half of the stock. Prompt action followed. The committee having made a tour of inspection in other cities where similar buildings are in operation, a site was selected and an option secured. Mr. P. O. Keilholtz, Consulting Engineer, was engaged to design the building, and the finance committee, of which Mr. Henry F. Baker, President, Merchants' and Manufacturers' Association, was Chairman, offered to the people of Baltimore 3,000 shares of stock at par value of $100 each. There is only one class of stock, all of which was sold at par, and there was no bond issue. It is interesting to note the wide distribution of the stock, as evidenced by the fact that, in addition to the Light and Power Companies, there are 183 stockholders.



The officers of the Industrial Building Company are: President, Mr. Alexander Harvey, Secretary and Treasurer of the Detrick & Harvey Machine Co.; Vice-President, Mr. William J. Chapman, President and General Manager of the W. J. Chapman Coal Co.; Secretary and Treasurer, Mr. Charles M. Cohn, Vice-President of the Consolidated Gas, Electric Light and Power Company.

The Industrial Building Company has issued a booklet setting forth the theory on which the building was erected, from which the following extracts are quoted:

Facilities for Manufacturing without Capital Expenditure.—Capital expenditure is the great obstacle between the small manufacturer and success. To remove this obstacle is the purpose of the industrial building, which will be ready for tenants January 1st, 1912.

The industrial building will provide every facility requisite to low cost production. It offers cheap power, abundant light, absolute fire protection, low insurance rates, efficient elevator and transportation service, and safe and healthful surroundings for operatives. Without capital expenditure it will provide for the small manufacturer every essential factory requirement that can be obtained by established industries.

Financial Advantages Enjoyed by the Tenants of the Industrial Building.—Without capital expenditure for land, building, elevator service, power and heating plant, the manufacturer located in the building is in a position to employ all of his capital for operating and extending his business.

The manufacturer located in it establishes a better credit in virtue of the fact that all his capital is invested in liquid assets. Every factory requirement save the raw material and the machinery, will be furnished by the Industrial Building Company.

The question of taxes for land, building and equipment is eliminated for the tenant of the building. Under the plant exemption law of Maryland, machinery used for manufacturing is not taxable.

Tenants will obtain low insurance rates because of the fireproof construction of the building, which will be "sprinkled risk." The manufacturer located in a sanitary and comfortable industrial building, situated near a large residential section, will enjoy an advantage in the employment of labor.

Cheap Power.—By contracting with the central station for all electric power used in the building, the tenants will obtain whole sale rates, by which everyone will benefit. The rates for electric power in Baltimore are the lowest on the Atlantic seaboard, and the tenant of the industrial building will be in a position to obtain the most advantageous rate buying power in bulk with the other occupants of the building. There has been developed for Baltimore a tremendous source of electric energy. Power is obtained from 3 independent sources, the 100,000-horse power development on the Susquehanna river, and two gigantic steam generating stations. Storage batteries and an unexcelled distribution system assure adequate, efficient, never failing service. The ceilings of the building are provided with sockets to allow the ready attachment of hangers for shafting or motors, thus avoiding considerable expense on the part of the tenant for this mechanical arrangement.

The Economic Advantages of Sanitary Production.—Every successful manufacturer knows the advantages of sanitary factory surroundings. Labor is more efficient, from the fact that it is more contented, and not only is the quality of the product improved but the quantity of the output increased when a factory enjoys the advantage of abundant light, air and clean, healthful surroundings.

The industrial building offers the small manufacturer every advantage in this regard that may be obtained by the most successful manufacturer. It puts him on a basis on which he can successfully compete without the necessity of large capital expenditure.

In placing contracts for material necessary for the construction of the building nothing which will burn was bought. The site is exceptionally free from external fire hazard. Abundant air and sunshine are provided, 55 per cent. of the wall surface being window space in order that all the natural advantages of the site, which has light on all sides, may be enjoyed.

A central transportation system, by which freight is delivered and called for, will relieve the manufacturer of the cost of teams or power wagons, their maintenance and operation. Bills of lading and memoranda of shipments will be made out by the clerical force of the Building Company, and freight and express charges will be prepaid and settled at regular periods.

THE offices of the Gas and Electric Supply Company, of Amarillo, Tex., have been removed to the Munn building, 113 Weeks avenue. The fixture division of the concern is under the direction of Mr. B. D. Johnson, formerly of the Albert Sechrist Fixture Company, of Denver. The assortment of fixtures carried (so writes B. B. T.) "is better and larger than any other to be found between Dallas and Denver."

[PROCEEDINGS, AS FURNISHED BY THE SECRETARY—CONTINUED FROM PAGE 124.]

PROCEEDINGS, TENTH ANNUAL CONVENTION, WISCONSIN GAS ASSOCIATION.

HELD IN HOTEL PFISTER, MILWAUKEE, WIS., MAY 17 AND 18.

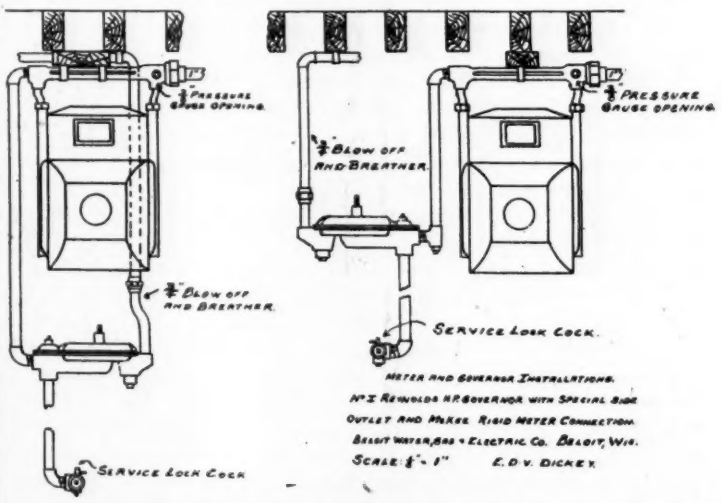
SECOND DAY—MORNING SESSION.

The President introduced Mr. E. D. Dickey, of Beloit, Wis., who read the following paper on a

METHOD OF INSTALLING GAS GOVERNOR AND RIGID METER CONNECTIONS.

This is a short paper merely to bring out the combination of high pressure governor and solid meter connection. It was written because, as far as I could learn, none of the high pressure governor people are manufacturing a governor of this style having a top which can be removed without disturbing any piping, and also to show our combination of governor and meter connection.

The accompanying sketch illustrates the Reynolds high pressure


¼" Pressure Gauge Opening
¾" Blow off and Breather
Service Lock Cock
¼" Pressure Gauge Opening
¾" Blow off and Breather
Service Lock Cock
Meter and Governor Installations.
No. 1 Reynolds H.P. Governor with Special Side Outlet and McKee Rigid Meter Connection.
Beloit Water, Gas & Electric Co. Beloit, Wis.
Scale: ½" = 1" E. D. V. Dickey.

gas governor modified with a side outlet, and the McKee rigid meter connection. These sets are typical residence installations, and show the governor at a convenient height for repairing, adjusting, etc., and the meter well up out of the way.

Governor.—The Reynolds Company, at our request, put an additional tap in the bottom casting, otherwise the construction of their governor remains the same. They have cast a boss on the bottom section and tapped a ¾-inch horizontal hole. By referring to the sketch you will see that this outlet is at right angles to the inlet. The outlet hole, as used in the earlier type of Reynolds governor, is left in the casting, being conveniently located for adjustment and clearing of naphthaline, which naturally collects on the valve seat below it. The ¾-inch removable cast iron plug, inserted at this point, makes it possible to get at this place for quick clearing.

The main advantage in having the outlet on the lower casting is that the governor and meter connections need only be disturbed occasionally. A defective lower casting will probably be the only reason for removing either the inlet or outlet governor connections, and this will seldom be necessary. The top of the governor can be removed and the valve or diaphragm replaced in a minimum length of time, without disconnecting any of the pipe joints or the meter. With the outlet run from the top casting, it is necessary to remove the meter and disconnect the inlet meter connection whenever the top of the governor has to be disturbed. This disconnecting and reconnecting not only cause a large labor expense, but there are also the resulting small gas leaks in the meter swivels and piping.

A male tee, plugged on the bottom, can be substituted for the street ell in the outlet of the governor. This will act as a pocket to collect any particles of rust or foreign matter which might drop from the pipe connecting the outlet of the governor to the inlet of the meter. Galvanized fittings may also be used on this particular connection, to further guard against rust.

The governor is first set at the proper distance from the floor, which distance depends upon the direction you are to swing it and the height of the basement. Generally it is possible to place the seal in a convenient position for running the blow-off pipe up to the ceiling and

indirectly out. The blow-off pipe, or ¼-inch connection from the mercury seal to the outside air, is run upward for at least 18 inches, being strapped firmly above the governor, and then run through the top of the foundation or the framework of the basement window, to the outside of the building, ending with a ¼-inch ell turned downward. Its termination should not be under a bedroom window or porch, for, if the seal breaks, the leakage of gas would be unduly dangerous and objectionable, until the case was reported to the company and the governor repaired. Trouble was experienced with some of our early installations, because this blow-off pipe was not properly leaded and tightened; this allowed the gas to escape in the cellar when the seal blew even slightly. If this pipe is run horizontal with the top of the governor, the mercury is liable to be blown entirely out of the cup, while a short vertical run will allow the mercury to drop back into the seal cup, and prevent all but a small leakage of gas.

Too much care cannot be exercised in setting governors. The fitters should be thoroughly drilled in the importance of the small points, such as having them level, avoiding the red lead in the outlet, not disturbing the valve seat, testing to see that the vent above the diaphragm is clear, properly strapping the blow-off pipe, and not removing the shipping-pin until the governor is set. The set showing the governor directly under the meter is used more than any other form. Enough clearance must be left to enable the workman to remove the governor top. By using the methods of setting, as shown on the sketch, or similar methods, the governor can be placed in many different positions, and at the proper height for maintenance and repairs. This position depends upon the location of the service and the amount of room which can be used, bearing in mind that the governor must be readily accessible.

Rigid Connections.—One of the principal points in favor of using the rigid meter connection is the saving in labor cost, especially in companies where a fitter attends to all classes of work. When installing iron connections there is a great amount of time lost in trueing up meter swivels and getting them parallel in both directions, even though a meter setting gauge is used. Besides being parallel, the swivels must be exactly the same height. If these conditions are not perfect, we must expect sooner or later a swivel leak or broken tube screw. The rigid connection is installed almost as quickly as a corresponding piece of pipe, and you have a minimum number of pipe joints in the completed governor and meter set.

In addition to first cost, the permanent condition of both kinds of connections has to be considered. It is not unusual to find the inlet or outlet connection broken loose from its support, or to have a strain on one or both of the swivels, due to one cause or another, with the resulting inlet or outlet leak. The solid connection will greatly overcome this trouble. The cones will no doubt start leaking if the meter is sufficiently jarred, but the strain will come on both cones, while in the iron set it would probably bear on one cone only. The meter connection and meter can be thrown out of place and still the meter will not be damaged, unless the whole set is knocked down, or the shock directed against the meter itself.

There are some rigid connections on the market which are made in two pieces fastened together with bolts. These connections are to be adjusted to the meter which is to be set, but when the time comes to replace this meter with another, which has a slightly different distance between tube screws, it is necessary to readjust. Offset swivels should be used with these connections, to avoid the readjustment. There is ample room for adjustment in these swivels to compensate for the difference in distance between the tube screws of the different makes and styles of tin meters of the same size.

The metter connection which we use, and which is shown on my sketch, is a solid bar made with 1-inch union on the outlet. The Eclipse Fuel Engineering Company made this connection up especially at our request, with a ⅛-inch tap on the outlet for taking pressures. This gives a uniform size and conveniently placed opening to which to attach the "U" gauge. We use offset swivels, which have to be in perfect alignment, and also a reasonably thick washer to take care of any little imperfections in the alignment of the tube screws. I understand that some companies have experienced considerable difficulty with rigid connections, owing to imperfect offsets; therefore, this point must be watched closely.

In changing a meter it is only necessary to turn the offset slightly one way or the other to insure a perfect fit. It is never necessary to remove a rigid connection, unless the consumption of gas requires greater meter capacity. We recommend that the meter be placed up near the ceiling of the basement, where there is the least chance of its being disturbed; however, it can be placed at any desired height, and be just as free from strains.

Discussion.

The President—Mr. Dickey's interesting paper is now open for discussion. As he intimated, it will probably be of value to a good many of us a little later on, and I presume is of present interest to several of our members.

Mr. Walker—At what point in the pressure does Mr. Dickey reduce it? How high a pressure would he have in a building for industrial purposes where it was necessary to reduce it for the governor?

Mr. Dickey—Mr. Walker has, I think, a wrong idea on that point. The governor reduces the main pressure, which, in some companies, runs up to 40 pounds and over.

Mr. Walker—I thought you meant this for individual installation in a house.

Mr. Dickey—Well, they could be so used where high pressure enters the building. The high pressure is up to the end of the service and it is there that the governor is placed.

Mr. Walker—We have never got to that yet.

Mr. Dickey—We have a 5-light system and carry 1¼ pounds at present. Our pressure will ultimately be 5 pounds, which is only a medium high pressure, but our methods would apply to any high pressure system.

Mr. Walker—I do not wish to criticize Mr. Dickey, but at the same time I thought it was due to the gentlemen present to know what the initial pressure at starting was.

Mr. Dickey—It makes no difference what the initial pressure is as long as it is high pressure, and has to be reduced at each service.

Mr. Walker—"High pressure" with the gas companies years ago meant but a very few tenths increase. Now it means a great deal.

Mr. Dickey—Yes, Mr. Walker; but in speaking of high pressure or medium high pressure distribution I mean a main and service pressure which is greater than the desired burning pressure. It is reduced at the end of the service. On such a system we can deliver an unvarying burning pressure at the meter of 2, 4 or 6-tenths, or any desired pressure lower than that carried on the main.

Mr. Walker—All right; now that that is explained, it is satisfactory.

The President—Has Mr. Dickey ever installed any of these outfits in houses without cellars? I would like to know if he considers it practical to put them in a class of houses entirely devoid of anything that can be called a cellar, where the outfit would have to go, presumably, in the kitchen.

Mr. Dickey—It is more difficult to install a pressure governor and meter than it is to install just the meter, because the blow-off, or vent pipe, has to be taken care of, and half again as much space is required. If gas is to be installed in a house which is not provided with a cellar, a location can always be found for the meter and governor. For instance, in downtown stores, when the meter is hung on the wall, the governor is generally placed alongside or under it. If it is set under a shelf the governor accompanies it. We always, however, aim to cut down the high pressure as soon after entering the building as possible. In doing this the governor and meter are sometimes separated.

The President—You do not hesitate to put in those outfits?

Mr. Dickey—No, we do not. We have governors installed in kitchens. In the case of excess pressure on the low pressure side of the governor, and the seal breaking, the gas is carried to the outside air by the blow-off pipe and there is very little chance of leaking in the house.

The President—It is simply more necessary, if you place them in the kitchen, that they be perfectly tight?

Mr. Dickey—The blow-off pipe must be made up as carefully as any of the other piping. Unless there is something wrong with the governor there is no gas pressure on the blow-off, One end is open to the atmosphere and the other is connected to the top of the seal and vent over the diaphragm leather. I know of the experience of one company just starting to use high pressure distribution. At first they installed all the blow-off piping dry and hand tight, consequently when a seal blew, or there was a leakage of gas through the governor, it came out of the joints in this piping into the room or basement. If the governor and piping are both properly installed and the pressure builds up on the house piping causing the seal to blow, the leakage of gas will be entirely out of doors. There is, of course, some element of danger from this escaping gas, but we have not experienced any accidents or troubles.

The President—Just how do you dispose of that vent pipe when the governor, for instance, is placed up in a corner of the kitchen? Take it right through the wall?

Mr. Dickey—The vent pipe would be run through the wall at the nearest convenient point. In some places downtown we found it advisable to run the whole length of the cellar and take it out back on account of the iron and glass show windows, but I ran practically all of our downtown blow offs directly out of the front of the buildings. A ¼-inch ell turned down, and from 1 to 2 feet from the sidewalk, is the only outside evidence of this pipe.

The President—Close to the wall?

Mr. Dickey—Yes; flush with the wall. I would like to know if any one in the room has experienced any difficulty or trouble with solid connections. We have only been using them since this spring.

Mr. Jones—We used lead meter connections and thought we had the cost down to a pretty fine point. The length of lead used was 7½ to 8½ inches, is very short and cost 13¾ cents, the solder 2 cents, labor 8½ cents, galvanized coupling 2½ cents. In Racine I understand they use McKee solid meter connection, and it was strongly recommended to us. We bought 100 from Racine and had considerable trouble with the crooked threads in connections. A man installing the meter quite often could not get it lined up properly, which meant another trip to the shop. We studied the matter up and cut out the solids entirely in that connection. In place of that we used two elbows, one a street elbow, forming a swing-joint, and run an offset swivel into that; on the other side we had the same arrangement, and had no difficulty at all in getting the thing lined up properly. We cut out the cost of the bar and lead connections entirely and have practically a solid connection. That does away with your bar and your union, with fewer joints and less trouble—absolutely no trouble at all in connecting up the meter; and the cost is less than ½, I should say, than of the solid. This is what we used entirely for the past 2 years, and we would not go back to the bar and meter connection.

The Secretary—Inasmuch as the question of defective threads on offset connections has been mentioned, I can add to the discussion by citing an experience we had here in Milwaukee some 6 or 8 years ago. A certain make of malleable offset fitting (if it is the malleable fitting Mr. Jones refers to) was in use at that time. We found in the early part of our using this particular make of fitting trouble with the threads in these offsets. As soon as the trouble was located, however, the whole batch of fittings was returned, and since we are confining our purchases on those fittings to different makes now there has been no more complaint of which I am aware.

Mr. Jones—We found with the offset threaded swivels, crooked threads and threads not true, but with this swing joint we do not care whether they are crooked or straight; we have ample room to straighten up.

Mr. Lyons—I do not think it a good idea to discard a new form of connection just because there is a mechanical difficulty. I think that if the matter of crooked threads is reported to the people furnishing the solid connections they can readily rectify the trouble. We have had some experience in that, but, I understand, Mr. McKee now has a very accurate gauge for setting the centers, and carefully inspects all connections for defective parts. I think there is a decided advantage in using the solid connection, as it disposes of the meter shelf. There is practically no strain on the swivel, only the weight of the meter hangs from the connection, which is a point in favor of the solid types.

Mr. Herrmann—Has Mr. Dickey had any trouble with service stoppage under the high pressure service, or closing up in the winter time?

Mr. Dickey—We have our usual stoppages with frost in services downtown; however, there is very little of this trouble.

Mr. Herrmann—Do you ever clean out the service with a pump?

Mr. Dickey—Yes, when we have bad ones; but we have been bothered very little. There is a small amount of naphthaline trouble from time to time. Some of our old services contained rust and scale and these were blown out with gas pressure from the main. To clear off this rust we install a cock just inside of the wall on all services.

Mr. Herrmann—Is that just a plain cock?

Mr. Dickey—Yes; with an attachment for a lock.

Mr. Herrmann—In case you wanted to open that up and clean out your service with a pump, you would have to turn on service cock. Will not that air back to your governor?

Mr. Dickey—Yes; unless you disconnect. You mean that the cock should go on the up-and-down piece instead of on the service?

Mr. Herrmann—Yes; or throw off the governor entirely so the pressure would not back up into it.

Mr. Dickey—I have thought of that scheme, but we have always found it advisable to install the cock directly inside of the wall.

Mr. Herrmann—In that case you put on a pump.

Mr. Dickey—You put the swing joint on the service and then——

Mr. Herrmann—We use 45's.

Mr. Dickey—Where do you put the service cock?

Mr. Herrmann—Right on the meter.

Mr. Dickey—I might say in this connection that most all stoppages on governor work, especially on a medium pressure, where there is only a pound or two, or at times only ½ pound, our distribution system was originally low pressure, that we get the stoppages just below the valve, on the valve seat of the governor. This is cleared by pouring the proper fluid into the ¼-inch opening directly over the inlet. This is the only point on the governor which gives us any trouble from stoppages.

Mr. Herrmann—Of course, in our case, that is done down here; if the boys put a pump on the service, and there should happen to be any meters on the other end that were not shut off, the service being badly stopped, these meters would be put out of commission. I should judge in this case it would be the same.

Mr. Dickey—Ordinarily on high pressure work, in blowing out services, gas pressure is sufficient, and they are blown out from the main to the cellar.

A Member—Did Mr. Dickey ever find it necessary to place a governor outdoors where it was exposed to the winter weather; and with what results?

Mr. Dickey—We, of course, do not have as severe a winter in Beloit as those living in the north of our State, but we get some very cold months. Some of our governors were installed in area ways under sidewalk, but we found it necessary to move all of them into the buildings, on account of frost collecting under the valve. We have a great percentage of our governors in basements which are not heated. They are not unduly affected by the cold temperature. I have found that governors installed next to an open window or other opening, and consequently exposed to a cold draft, will generally give trouble. A covering of cloth or paper around the governor and piping will remedy this trouble to a great degree. Some of our installations are completely covered with a couple of inches of paper.

Mr. McCorkindale—We are using exclusively high pressure up at Ishpeming and Negaunee. At Sherman, Tex., we are using high and low pressnre. My first high pressure plant was at Sherman. We use governors in Texas, where, by-the-way, it is not so very warm, in that we have sleighing sometimes 2 weeks at a time in Sherman, where we set them outdoors, right under the porches. Our meters in a great many places are so situated, and all we do to read a meter is to cut a little slot in the front of the porch just big enough to look through to read the dial. In that way the tin in front of the glass is always left up. We have had very little trouble with our governors. As far as stoppages in the services are concerned, we have had very little trouble therefrom, whereas, on our low pressure system, we were bothered with naphthaline almost every change of the weather, from cold to warm, or the reverse. On our high pressure line we have had practically no trouble. In the upper peninsula of Michigan, where it is extremely cold, there all our governors are indoors, either under show windows or in basements, some of which are heated and some are not. We have governors and meters right under the sinks in some houses that have no cellars, and do not hesitate at all to put them right under a show window or under a store. Our governors and meters are in our office (there is no basement) right under the show window, on a level with the floor. At first we started to carry the vent pipe back under the cellar and then up on a little return ell, but found we had so much snow there that it would just form ice on the return ell and then we were practically without any vent at all, so we now make it a practice to bring all those pipes right under the sill of a show window, and also run it out through the kitchen, right through the wall to the outside of the building, retaining only enough elbow to keep moisture and the rain from running back into the governor. We are very much pleased with our high pressure system and with the results we are getting from it.

Mr. Jones—We have a high pressure line from Appleton over to Neenah, and the Fourth Ward in Appleton is high pressure entirely. This winter we had two services stopped up completely. We tried to force them, but could not do anything effective along that line and had to dig. We found the ¼-inch hole into main stopped up with naphthaline. We had that difficulty before. One entire section complained of lack of pressure, and we traced it to a stoppage right at the top of a 4-inch main, plugged with naphthaline. Outside of that our service stoppages don't amount to anything. As to blowing into the cellars, that looks very bad practice, and I do not think

people would stand for it very long. We take a common hose, run and blow them outdoors, so as to avoid any gas in the basement.

Mr. McCorkindale—One incident we had might be interesting to the members. Our plant lies between Ishpeming and Negaunee, out in the woods to a certain extent, the 4-inch line to Ishpeming passing under a railroad track. In building a railroad bridge they dug out and exposed our main, and in covering it they filled the hole with rock. Then when the spring thaw came the water ran right through this rock and in going down it froze. Our pressure got less and less, and when the big pulls came one night we were pretty nearly out of business. We were at a loss to find out where the trouble was. At last we located the spot. Drilling down we found that at one particular place we had considerable naphthaline, also frost in the main. We put in some alcohol, removed the rock, filled it in with sand and had no trouble since. But it was quite an experience to find the trouble.

The President—Is there to be any further discussion?

Mr. Dickey—One little item as to the blowing of the service in the basement. I would say to Mr, Jones we also use the hose connection to the outside. I did not mean directly in the basement.

The President called for the paper by Mr. R. C. Frampton, of Pittsburgh, Pa., on

WATER HEATERS.

Mr. Frampton failing to respond, the Secretary read the paper, which follows:

From the gas man's standpoint the subject of gas water-heaters is one of vital and ever-growing importance. Opening a field of vast possibilities in the way of gas consumption, the gas water heater is being recognized as a very important factor in the new business departments of the gas companies of our country. The necessity for introducing and exploiting the advantages of gas as a fuel for cooking or gas range use is becoming less and less apparent, for the public now quite generally concedes the wonderful advantages of the gas range, and ranges are now being sold with a great deal less effort and expense than heretofore. This permits of more attention to other appliances, and the water heater field holds wonderful possibilities for the alert and active gas man. The claims and counterclaims made for the various types of gas water heaters, by the various manufacturers of same, often confuse the gas man who is developing this feature of business actively for the first time. Sometimes the great importance of dealing with an old, established factory, that maintains an active manufacturing and sales' organization as well as a good system of co-operation, is overlooked. It does not pay to experiment with new and untried makes of gas water heaters, as a rule; but much more satisfactory results can be obtained by co-operating with the concerns who have attained success in their line, and who have long ago passed the experimental stage in their business and in the structural design of their heaters.

It has been found from experience that the "instantaneous" method of heating water is by far the most economical and advantageous for the consumer. Obtaining the hot water by storage circulation is much more costly and cumbersome in operation than with the instaneous automatic copper coil heater. In order to obtain the automatic ever-ready service from a storage type of gas water heater, a thermostat is necessary, and the reservoir of water must be kept heated constantly. This means a heavy expense, and, even with the most improved type of small storage system, it has been found on tests made by several of the large gas companies, with a 40-gallon tank very heavily insulated and with the best type of heater and thermostat, that it costs from $3 to $3.50 to merely keep the tank heated for 30 days, and without one drop of hot water being drawn from the tank. The automatic instantaneous heater will give an ordinary family, under average conditions, a very fair supply of instantaneous and ever-ready hot water for this same amount of gas. In other words, the storage system costs nearly twice as much in operation as a good automatic instantaneous water heater, based on supplying an average family with 60 gallons of hot water per day, at a temperature of 140°, and with gas at $1 per 1,000, and testing 600 B.T.U.

The automatic instantaneous heater is, of course, high in first cost compared to many other types of gas water heaters, the average size selling at $100 to the consumer, and this in a measure restricts the sale of these heaters to people of means. To take care of the needs of the smaller class of homes having small families, yet with a demand for a convenient hot water service, a small or intermediate type of gas water heater has been placed on the market, and it has met with a very great success, selling at list price of $50 and $60, giving the small home the advantages of the instantaneous automatic heaters. This type of heater has found great favor with the gas men, who realize the immense field for it, and know from experience that they don't get the proper gas consumption out of the ordinary independent tank circulating heater, by reason of the great inconvenience and necessary wait for hot water. The average small or intermediate automatic heater in operating cost runs about $2 per month in the ordinary small home, and it is used practically all the year through, whereas statistics have shown that the average small, independent tank heater does not take a consumption of over $10 per year, which, when compared to $24 per year, emphasizes the great importance and desirability of the automatic instantaneous system of heating water, and with a correspondingly greater income and profit to the gas company.

There are, of course, many thousands of homes already equipped with a kitchen boiler, and as these consumers are educated to the operation and use of the independent tank heater, they would not possibly invest $50 in a gas water heater. For these homes, the small copper coil, independent tank heater is the best type of heater to sell and use, being remarkable for the quick results obtained in the heating of water, and for the low maintenance cost with great durability.

The use of gas for water heating purposes is as yet in its infancy, and the development along this line is certain to be very remarkable within the next decade. The results being obtained by progressive gas companies, who are devoting great attention to the development of the gas water heater part of their business, has proven beyond all question that gas water heaters can be taken up with very great profit by any gas company, and I believe that there is nothing else that will do more to popularize the use of gas (with consequent increase of dividends for the gas company) than actively pushing good and satisfactory types of gas water heaters among the consumers. Selling good heaters, install them correctly, giving them consistent maintenance care, and satisfactory results are sure to follow.

Water heater manufacturers are specialists in their line, skilled in the art of building good heaters, as well as in the selling and installing of the heaters. They are willing to place their knowledge and facilities at the disposal of any active gas man going into a water heater campaign, and much good can be secured through co-operating with a good and well organized heater factory.

Discussion.

The President—Mr. Frampton's paper is now open for discussion. If any one here has met with success in introducing the automatic instantaneous heater, we would very much like to hear his experiences. Have you any in use, Mr. Kimball?

Mr. Kimball—We have about 6 automatic heaters in use that were installed through architects specifying the same. Some of them seem to sell better through the architects than through our solicitor. Recently we have had on the floor 6 automatic tank heaters, and while we have not sold many of them, they appear to arouse a great deal of interest. I think this summer we will sell a great many of them. In the small, independent heaters we have a great deal of trouble, not with scale, but from mud forming in the tanks. Recently, in my own house, where I operate a small, independent heater, it became somewhat difficult to get hot water. Investigating I fonnd the tank, using ordinary lake water, was half full of mud. It was a horizontal tank, having a drain cock on the bottom, and also one on the bottom of the tank, but we could not blow the mud out. I had to disconnect that tank and wash it out with a hose in the yard in order to get out the mud. In a number of cases the independent heater worked all right to start with, but the mud proposition has to be watched. Simply blowing out won't take care of it.

The President—You ought to get a different management company to run your water works. I would like to hear from Mr. Borchert, representative of the Pittsburgh Heater Company.

Mr. Borchert—The gentleman who spoke in regard to the independent water heaters, relative to stopping up trouble. This let me say is not the fault of the heater; it must be entirely the fault of the water. If the heater is properly connected there is no reason at all for the tank stopping up with sediment. It must be entirely in the water itself. If the heater is properly connected (there should not be any sediment through water being heated) there need be no stopping up of a tank, nor any failure to get circulation out of the heater. I have connected up about 4,000 of those heaters in Milwaukee the last 12 years, and the last 7 or 8 years we have had little of

no trouble from sediment, as far as our hot water was concerned. Years ago our water supply was not quite as clear as it is to-day. We then had more or less sediment settling in our tanks, but at the present time our hot water is very, very clear. Of course, sediment in heated water is liable to happen; that depends entirely upon the connections. For instance, in heaters, coal stoves, furnaces, or hot water heating systems, you put in a coil, and if it is subjected to very extreme heat, the circulation not being good, that coil is very liable to stop up; but, that is natural. There is a lot of sediment in all water, but if the connection is properly made there is no reason a coil should stop up. The new heater (of the independent type) the Company is selling in Milwaukee, is of the copper coil type. We sold some 300 to 400 of them the last year, and are meeting with very good success. They are very rapid, are independent, and, I think, cheap to operate. I have found different people for whom I have installed heaters, to recommend the heaters to others for me, individually. I have sold instantaneous heaters in Milwaukee for the last 10 or 12 years. At the present day, and within the last 3 or 4 years, they have been brought pretty near to perfection, and of all the heaters that have been installed by me in the last 4 years, every party for whom I installed these will sell a heater to a prospective customer much quicker than I could sell it myself. Such is the best recommendation I have, and the easiest way to dispose of the heater is to refer a prospective purchaser to a party for whom I have installed one. A satisfied customer will do that much for you. As to the average cost, that seems about $2.50 to $3 a month, with us in Milwaukee. Of course, we have the aid in our argument, too, of noting how quickly the result wished for is secured. All the heaters installed in Milwaukee have worked very satisfactorily. I know if the different gas companies throughout the State started to sell all copper tanks instantaneous heaters, and connect them they will have no trouble in getting a lot of business in the future. A point I wish to add about water heaters is this. Mr. Walker's statement about gas ranges applies equally well to the water heater proposition. You know, it is practically the same thing. One of the most important things with water heater connections is the vent pipe. With a good vent pipe or chimney the efficiency of a heater will be 20 per cent. better than the one not so instanced. I have set up a water heater the only place to which to connect was a chimney in very, very poor shape. We had to clean that heater at least every 2 months, until I finally took a man there who cleaned out the chimney, which operation increased the efficiency of that heater close to 20 per cent. Since then (7 or 8 weeks age) the heater has given good service. In fact it has been in fine shape. An important thing in water heating settings is to get a vent pipe, for that gives better combustion, and the heater in general remains cleaner all the way through; coil and all.

The Secretary—Mr. Borchert accentuated the importance of venting the water heater. Do you place a damper on the vent pipe?

Mr. Borcher—Not on the instantaneous water heaters.

The Secretary—Referring to the other one; the copper coil, independent heater?

Mr. Borchert—Yes.

The Secretary—Do you advocate opening the damper completely?

Mr. Borchert—No; only half way. In most cases of that nature I make it a practice to connect the vent pipe from the small heater directly with the chimney. A few years ago we used to cross-connect to a chimney, and many times these chimneys were very defective, and so we had trouble. A down-draft on that chimney would cause a blow-back through our heater. Not to have any "come-backs" and save some expense, we make it a point to connect direct to the chimney. The majority of the chimneys are good, and if you connect a heater vent into a good sized chimney you get quite a little draft. All of the heaters have dampers, and one only need open up the damper half way to get all the combustion required. That has been our experience.

The President—There being nothing further the discussion is declared closed.

A Question.

Mr. Eastman inquired if anyone present knew a gas company doing any purifying with lime. A seed house proprietor in Manitowoc would like to obtain some lime that had been used in a gas purifier. He thought there would be a market for it.

Mr. Butterworth—Why don't you make it?

Mr. Eastman—Well, we don't care to. If somebody is doing it, why——

Mr. Butterworth—That seems a field for a gas company in the vicinity of Manitowoc to find out what would be paid for it. Perhaps they can save money. It is worth running down. It is too far away from us in Platteville.

Mr. Cheney—I believe they are using lime for purifying at Baraboo. The last time I was there I was told so.

The President—Mr. McCorkindale, Chairman of the Nominating Committee, has handed in the following report:

Report of Committee on Nomination of Officers.

Your Committee to Nominate Officers for the ensuing year respectfully report the following gentlemen to aet as officers for the term specified:

For President—H. M. Buck, Waukesha.
For Vice-President—James H. Walker, Milwaukee.
For Secretary and Treasurer—Henry Harman, Milwaukee.

Election of Officers.

The President—Gentlemen, you have heard the report. What is your pleasure?

On motion of Mr. Kimball, the Secretary was instructed to cast the ballot of the Association for the election of the officers named by the Nominating Committee. [Seconded by Mr. Dickey.]

Preceding the announcement of the result, Messrs. Cowdery, Lyon and McCorkindale were appointed a

Committee to Revise the Salary

of the Secretary. Subsequently the Committee reported in favor of fixing the salary at $250, which report was adopted. The ballot for officers was then cast, a report in accordance with the return made by the Secretary was accepted, and an affirmative result was declared.

Affiliation Representative to the Gas Institute.

The President—We seem to have the further duty of electing a representative of this body to represent us in the American Gas Institute. Mr. Harman says he understands the nomination to that committee runs for a number of years, but there seems to be some uncertainty regarding it. As you all know, Mr. Glass is our representative, and possibly, to set all doubts at rest, not knowing exactly when the term for which he was so elected expires, it would be well to pass a resolution electing him as our representative, because then that will cover any possible lapse in the period.

Mr. Lyons—I move Mr. S. J. Glass be re-elected to succeed himself as the Representative of the Wisconsin Gas Association to the American Gas Institute. [Seconded by Mr. Eastman.] The motion was unanimously adopted.

Place of Next Meeting.

The President—At our last meeting there nothing was done as to the next place. Milwaukee seems to have been taken for granted, but according to our by-laws, the naming should be settled each year. As far as I know we unanimously favor Milwaukee as the proper place, but I presume possibly there may be a question as to the time. As that would require different action, at present we will consider simply the place of meeting.

On motion of Mr. Kimball, seconded by Mr. Lyons, Milwaukee was named as the place.

The Secretary here read the following

Telegram

from the National Commercial Gas Association, to President Winslow:

Denver, Col., May 16, 1911.

W. H. Winslow, President, Wisconsin Gas Association: The National Commercial Gas Association sends greetings to the Wisconsin Gas Association. We wish you a very enjoyable and interesting convention. We heartily and cordially invite the members of your Association to attend the next convention of the National Commercial Gas Association, to be held in Denver next October.

Clare N. Stannard, President.

The Secretary thereupon read the following

Letter

from the Iowa District Gas Association, as follows:

Des Moines, Ia., May 13, 1911.

Mr. Henry Harman, Secretary, Wisconsin Gas Association—My dear Mr. Harman: I beg to acknowledge your kind invitation to the officers and members of the Iowa District Gas Association to attend your annual convention in Milwaukee, for which please accept my thanks, as well as for the kind wishes for the success of our meeting.

(*Continued on page* 138.)

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NOTICE TO ADVERTISERS.

New Advertisements and changes of copy therefor should be in hand Wednesday noon of week prior to date of issue.

NEW YORK, MONDAY, AUGUST 28, 1911.

[Official Notice.]

Joint Gas Convention, Panama-Pacific Exposition.

Pacific Coast Gas Association,
Office of the Secretary,
445 Sutter St., San Francisco, Cal.,
July 28, 1911.

To the Committee on Joint Gas Convention, San Francisco, California, 1915: At the Eighteenth Annual Convention of the Pacific Coast Gas Association, and on motion duly made and seconded, a resolution was adopted to the effect that the Pacific Coast Gas Association invite all Gas Associations throughout the United States to hold a joint convention in San Francisco during the Panama-Pacific Exposition, in the year 1915, with a view of making it the greatest congress of gas men that has ever been convened. In compliance with such resolution, President Frank A. Leach, Jr., of Oakland, Cal., was instructed to name a committee to undertake the same, and has selected the following members of the Pacific Coast Gas Association to act upon such a Committee:

Henry L. Doherty, Chairman, 60 Wall street, New York city.

Thos. J. Cunningham, Editor American Gas Light Journal, 42 Pine street, New York city.

Lucius S. Bigelow, President "Light Publishing Co.," Buffalo, N. Y.

E. C. Brown, Publisher, "Progressive Age," 280 Broadway, New York city.

John F. Parker, Sales Manager Eclipse Gas Stove Co., Rockford, Ills.

A. C. Humphreys, President Stevens Institute of Technology, 165 Broadway, New York city.

Walton Clark, General Superintendent United Gas Improvement Co., Broad and Arch streets, Philadelphia, Pa.

Alphonse Mason, Welsbach Company, Gloucester, N. J.

Henry H. Hyde, Manager Tacoma Gas Light Co., Tacoma, Wash.

Leon P. Lowe, 626 Pacific Building, San Francisco, Cal.

As the site for the Panama-Pacific Exposition has now been duly selected, and San Francisco will at that time have a civic center with a large Auditorium building, it will at once become known throughout the world as the "Convention City." With this in view, it is sincerely hoped that the Committee will be able to take up the subject in a general way at once, in order that they maybe able to make a preliminary report as to progress, at our Nineteenth Annual Convention, which will convene at Oakland, Cal., September 19th, 1911.

The Panama-Pacific Exposition will undoubtedly be the greatest of its kind the world has ever seen, and San Francisco, having already made a reputation for itself in doing that which it undertakes to do in a most befitting manner, it is hoped that such work as this Committee can accomplish will bear fruit, and in the end be the means of bringing together all members of the profession in what has already been termed "The Greatest Congress of Gas Men that has ever convened."

Very truly yours,
John A. Britton, Secy.

[Official Notice.]

Experience Department, Pacific Coast Gas Association.

Pacific Coast Gas Association,
Office of Experience Editor,
San Jose, Cal., June 24, 1911.

To the Members: The Nineteenth Annual Convention of the Pacific Coast Gas Association will be held in Oakland, September 19, 20 and 21. The Experience Editor of the Association is in despair. Cast him a line; come to his rescue, for he needs help. To the notices sent out by the Secretary, few have replied.

We know that every gas man has had at least one experience during the last year that would be of interest to us all. Will you kindly respond at once? We know you are busy; gas men always are. And busy men have many experiences worth telling.

Sincerely yours, John D. Kuster,
48 E. San Antonio street. Experience Editor.

[Official Notice.]

Bureau of Information, American Gas Institute.

Office of the Chairman,
Schenectady, N. Y., Aug. 9th, 1911.

To the Members, American Gas Institute: The Committee in charge of the Bureau of Information, having received comparatively few inquiries so far, earnestly urge that all the members of the Institute, having questions or problems which they would desire answered or solved, will please forward them to the Committee at as early a date as possible, as we are anxious to place the answers in the hands of those making the inquiry, getting all these inquiries compiled in time for the report of this Committee at the next annual meeting.

Please do not assume that there are others who are going to bring forward the questions, the information regarding which you would like to have, but take the initiative and write the Committee at once regarding any questions which you would like answered, and we will endeavor to gather as much accurate information as possible on the subject in which you are interested.

M. Webb Offutt,
Gas and Electric Building, Schenectady, N. Y. Chairman.

[Official Notice.]

Twentieth Annual Meeting, Michigan Gas Association.

The Twentieth Annual Meeting of the Michigan Gas Association will be held in Detroit, Mich., September 20, 21 and 22. Headquarters will be the Hotel Pontchartrain. A most interesting programme of papers has been prepared as follows:

"The Function of Tar in the Condensation of Coal Gas," by Prof. Alfred H. White, and the Holder of the Scholarship.

"Advertising: A Brief," prepared by C. A. Brownell.

"Experiments in the Taylor System of Shop Practice, by "Ben." M. Ferguson.

"A Purchasing System for a Gas Company," by Albert G. Schroeder.

(a) "Use of Reinforced Concrete in a Gas Works," by H. W. Douglas.

(b) "A Concrete and Wood Condenser House," by E. F. Lloyd.

"Filament Ignition of Gas," by Prof. Howard Lyon.

"Development of the Hotel and Restaurant Gas Appliance Business," by W. F. Clausen.

"Directions for the Recovery, Concentration and Testing of Ammonia," by James A. Brown.

In a city the size of Detroit there is so much of interest to one and not to another, and so little that can be covered in the time allotted, it has been decided to make the entertainment features as elastic as possible to the end that all tastes may be suited.

The central feature of the programme will be two theater parties, one evening to be spent at Detroit's big vaudeville house "The Temple," and the other at whichever of the regular theaters offering the best programme—the booking for that week being not yet reported.

Wednesday and Thursday, the 20th and 21st, will each have two business sessions, and it is the intention to hold these on schedule time so as not to make it necessary to interfere with the other arrangements.

At the close of the afternoon sessions, on Wednesday and Thursday, automobile accomodations will be provided for all holders of entertainment tickets, either gentlemen or ladies. Automobiles will be at their disposal, for 2 hours, from 4 to 6 o'clock, to make such a tour of the city and visit such points of interest on the American side of the river as they may desire, dropping them at any hotel or inn desired at 6 o'clock. Parties for the automobile trips should be made up well in advance in order to insure the most congenial company to everyone.

Friday, the 22d, will be devoted entirely to factory inspections, including probably the Packard or the Ford automobile plants, various gas works, stove and appliance factories, special industrial installations, etc., and members desiring to visit any particular point on this day will insure proper accommodations by notifying the secretary well in advance.

For the convenience of those attending, the entertainment programme will contain a complete list of all points of interest, as well as the best places to lunch, dine, etc., together with minute directions for getting there. There are so many places on both sides of the river reachable by automobile, trolley and boats, which are both interesting and beautiful, that a large attendance should be brought out, not only among the members, but of those from a distance as well.

For the convenience of those who may desire to stay over for a side trip Saturday and Sunday, we will give a list of boat schedules to the Flats, Put-in-Bay, Cleveland, Buffalo, Niagara Falls, etc.

The hotels with which the members will be most interested are these: Pontchartrain, Cadillac, Hotel Tuller, Griswold House, The Wayne and the St. Claire. As the Michigan State Fair will be held in Detroit during the week of the meeting of the Michigan Gas Association, it will, of course, be the part of wisdom to make hotel reservations at the earliest possible moment.

We are endeavoring to arrange this entertainment programme so that there will be no temptation to neglect the technical sessions, for we have a programme which will be interesting, important and of value to those in all departments of the gas business.

The entertainment programme became an assured success the moment the committee appointed Messrs. R. Shacklette, L. B. Young and W. S. Blauvelt.

Yours very truly,
GLENN R. CHAMBERLAIN, Secretary-Treasurer.

BRIEFLY TOLD.

THE PROPOSED EXHIBITION OF APPLIANCES IN DENVER NEXT OCTOBER.—Chairman W. J. Barker, and his associates, of the Exhibition Committee, National Commercial Gas Association, to a certainty are deserving of hearty commendation respecting the clearness and sequentiality of their methods regarding the preliminaries for the Exhibition in Denver, Col. This show, which is to go on concurrently with the meeting of the National Commercial Gas Association (Denver, October 23, 24, 25, 26, 27 and 28), promises to quite equal any that preceded it; and that such a statement means much is readily admissible when we hark back to the splendor and effectiveness of the exhibitions of the two last years, held respectively in New York and Roston. The matter which prompted the current reference thereto is the Exhibition Committee circular and letter, sent out about mid-August from the Denver headquarters. We say "circular," but in effect the affair really comes nearer to being a magazine than a circular. To begin with, the exhibition hall, which is none other than the huge "Denver Auditorium." is shown in accurate printings, supplemented with a diagram of the interior, which brings out to a nicety the spaces as arranged for the display. These number just inside of 60, and to show how interested the appliance men are in the matter, even on date of the issuance of the magazine, 48 of these had been taken. Amongst other things in the compiling is a reproduction *in extenso* of the "Regulations," etc., that are to govern the affair. One of these provides that gas "For all ordinary purposes will be furnished without cost to the exhibitor." Other sensible regulations are to the effect that uniformity in advertising signs and the like must be adhered to, and that the Committee will furnish the signs, the decorations also to be under the vise of those in charge. Again (and this is an excellent provision), it is made plain that all "Publicity matter and plan of distribution must be submitted to and approved by the Exhibition Committee." Regarding the general plan of illumination, the magazine declares, "Special attention will be given to spectacular lighting effects. The Committee on Illumination, as well as some of the exhibitors, are working on new and novel ideas. In fact, everything will be done to make the exhibition hall as attractive as possible." To go a step further (and it may be taken for granted that the result is sure to exceed any degree of fair anticipation in such regard), the "Committee on Entertainment, in order to attract a large attendance, is making elaborate preparations, and will have a programme that will give the members a chance to view some of Colorado's finest scenery and also enjoy some novelties in the way of Western entertainment."

A HANDSOME ADVERTISING SCHEME.—The gas men of Lynn, Mass., are surely on their respective jobs, whether these be concerned in the making of gas and electric currents or in the selling of the same. This year (and it is rather late in the twelvemonth; but 'twas only last week we succeeded in obtaining a copy of it), the token of the season selected was in the shape of a calendar. It is of the 12-sheet order, and each sheet carries a tinted picture of a scene in the life of a pretty child, the pictures depicting matters relevently connected with child life and seasonal changes—"mother" properly, to be sure, also figures with the infant. To finish it up, an appropriate sentiment (the author terms them "verselets") accompanies each card—the sheets are really postal cards, of the ordinary style as to print. The author of the "verses" is the justly renowned Mr. W. F. Norcross, whose term of service with the Lynn Company is certainly not less than a fifth of a century. Writing of Mr. Norcross, the scribe of this recalls a story respecting certain advice given by him to a customer to whom many years ago he had been trying to sell gas appliances of one sort or another. The story goes like this. A woman customer complained to Mr. Norcross that her gas bill for the month was altogether out of proportion to that of the family who resided in the apartment above her. The complainer had no children; her neighbor had 5; she did not use gas in the laundry, whereas the upstairs party used gas for heating the laundry water, etc., etc. "Now, Mr. Gas Man," she concluded, "what are you going to do about it? What would you advise me to do?" "Well," replied the only Norcross, having waited a few seconds, during which period his hands had passed through his scant locks more than once, "I don't know. Maybe you'd better move upstairs."

CURRENT MENTION—

Quo warranto proceedings have been instituted in the Canton (Ills.) City Court by the City Council of Canton, under which complainant alleges that the Canton Gas and Electric Light Company has been working without a franchise since May 21st last, at which time the Company's former franchise expired. The Company refused to accept the terms of a new franchise offered by the authorities, in that the city sought to cause it to assent to a net selling rate of 90 cents per 1,000 cubic feet. The Company declares it will close down its plant rather than do business at the figure named.

"B. M. M.," writing in Detroit, the 18th inst., incloses the following: "In the inquest conducted here this week by Justice Burke, to determine the cause of the death of Anthony Reno, a verdict of accidental death from the inhalation of gas supplied from the pipes of the Detroit and Suburban Gas Company was rendered. The evidence, although showing conclusively that death was caused by asphyxiation, failed strangely in showing how or why the escape was occasioned. According to the testimony of one of the witnesses, the Company had been notified that gas was escaping into the Reno establishment the night that the death occurred; but, not having anyone available at the hour when the complaint was made, no one was sent to the affected house, although word was given by someone at the works or office that a man would go to remedy the trouble the following morning. The Justice in charging the jury was pronounced in averring that, while no criminal neglect could be put against the Company, it was nevertheless tenable to censure the Company for negligence. And that the jury did in its presentment."

THE County Commissioners have sanctioned the petition of the Fort Worth (Tex.) Gas Company to extend its mains through the bed of the County road for the purpose of affording a supply of gas to the buildings of the Texas Christian University.

THE El Paso (Tex.) Gas and Electric Company's new office building, which is located at the junction of Oregon and Franklin streets, will be ready for occupancy by Januaay 1st, 1912. Manager T. J. Jones says that it will be one of the show places of the city.

MAYOR COX has vetoed the resolution adopted by the Board of Aldermen, of Waycross, Ga., to extend the time of the franchise under which a gas plant might be constructed and operated in that city. The ordinance granting the permission was adopted early in the fall of 1910, and will expire by limitation on account of non-fulfillment November 12th.

AT a special meeting of the Trustees of the Troy (N. Y.) Gas Company Edward Murphy, 2d, was chosen to the Presidency of the Company, vice his father, the late ex-Senator Edward Murphy, Jr. Mr. Henry C. Shields was chosen Vice-President.

BOOK REVIEWS.

Empire Gas and Electric Merger.—The opinion of Public Service Commission, Second District, New York, concerning the merger of the Empire Gas and Electric Company's properties, which has appeared in the JOURNAL, has been published in pamphlet form, No. 109. Copies can be obtained upon application.

Electrical Franchises in New York City.—The Public Service Commission, First District, has published a somewhat lengthy report covering an investigation of the electrical franchises in New York city. The report includes testimony and opinions, with numerous charts showing the corporate control of the various companies.

(*Continued from page* 135.)

On behalf of the officers and members of the Iowa District Gas Association I wish to extend to the officers and members of the Wisconsin Association an invitation to be present at our Seventh Annual Meeting in Clinton, May 24th, 25th and 26th.

With best wishes for the success of your meeting, I beg to remain,

Very truly, G. I. VINCENT, Secy. and Treas.

The President directed the Secretary to acknowledge the receipt of these communications. No further business offering, the meeting was declared adjourned, without day.

Liability of Gas Companies for Injuries Resulting from Escape of Gas.

[Prepared for the JOURNAL by MR. JOHN EDSON BRADY.]

Duty of Company to Act on Receiving Notice of Leak.—The question of the duty of a gas company, upon being notified of a leak, to discover and remedy it, came up in "Anderson *v.* Standard Gas Light Company, of New York;" 17 Misc. Rep., 625. The defendant Company had installed one of its meters on the top of a stationary wardrobe in the plaintiff's apartment. One of the tenants, persuaded by the amount of the bill rendered by the Company, and the fact that a constant odor of gas was noticeable in the rooms, notified the Company that there was a leak in the pipes. The Company sent one of its employees to investigate, who reported that there were no leaks or other defects in the pipes. The complaint to the Company was repeated with the same result. About 2 weeks after the second complaint one of the occupants of the apartment lighted the gas jet, from which gas escaping from a leak in the side of the meter ignited. A fire was thereupon started which consumed most of the contents of the wardrobe.

The Company was held liable. Its obligation under the circumstances was expressed by the court as follows: "That it was the duty of the Company to maintain its meter in a condition free from the menace of danger to the persons or property of others by the exercise of a reasonable degree of care, which should be commensurate with the dangerous and explosive nature of its commodity, to ascertain all needful repairs and to cause such repairs to be made, is incontestable in principle and upon authority. And that the defendant Company was negligent in the performance of such duty was manifest from the facts that it had notice of an escape of gas nearly 4 weeks before the fire, and that it failed to discover the leak and repair it, though from its admissions upon the trial the leak in the meter was ascertainable upon the application of ordinary tests. True, the defendant did send its employees to examine the meter, and they testified that they had made the usual tests in such cases and found no defects. Subsequent occurrences, however, demonstrated the existence of a leak and, therefore, that the defendant Company's employees negligently performed their duties, and under the rule *respondeat superior* the negligence of its employees was imputable to the Company."

Where a gas company employed a watchman to patrol a street being excavated for a public improvement and to report any escape of gas, and the watchman was notified by several persons of the fact that the odor of escaping gas was noticeable in the street, and it further appears that the watchman made no report of the leak and that an explosion occurred some 9 hours later, the company is liable to one injured by the explosion. This was held in the case of "Diehle *v.* United Gas Improvement Company;" 225 Pa., 494, 74 Atl. Rep., 349. Diehle, the plaintiff, was employed by a construction company which was engaged in excavating the street. Diehle informed the watchman that there was a bad leak, but the watchman only answered there was no danger and suggested that Diehle go back to work. The watchman should have reported the trouble to the gas company's office, and for his default in this regard the company was held responsible. The court said: "The explosion occurred at 6:30 A.M of Oct. 5th, 1906, and the appellant (gas company) had received actual notice of the escaping gas 9 hours before. Well knowing the duty that rested upon it of exercising a high degree of care to prevent the escape of the dangerous substance under its exclusive control, and of promptly staying such escape when notified of it, the appellant had employed a watchman to give it instant notice of any escape of its gas; but he was faithless, and the law charges his infidelity to it. Notice to him of the escaping gas was notice to his employer, and, no matter how it escaped, the company could not permit the escape to go on imperiling life and property. Its unquestioned duty was to act the instant the escape was brought to its attention."

"The Richmond Gas Company *v.* Baker;" 146 Ind., 600, 45 N. E. Rep., 1049, is another case in which the gas company failed to make proper repairs, after receiving notice of a leak, and was consequently held liable for the damage done by an explosion of gas. The plaintiff was an aged woman living in the home of a relative named Thomas Crabb. The relative conducted a small store in the front part of the ground floor of the house. The house and store were piped for gas by Mr. Crabb, and the Company made the connection between the pipe in the cellar and its main in the street. In making the connection the Company used a defective elbow, and the inmates of the house soon became aware that gas was escaping. The Company was notified to repair the leak, after it had been temporarily stopped by the use of candle grease. The Company sent its man, Brannon, who used plumber's cement on the leak, and for a time checked the flow of gas. But Brannon apparently did not understand how to apply the cement properly, for the leak soon started again. Mr. Crabb then shut off the flow of gas from the main. When he turned it on again the leakage became once more noticeable and word was sent to the Company. The Company sent the same employee, Brannon, to attend to the leak. He examined the pipe, made such repairs as he deemed sufficient, and notified the household that everything was all right. The next day the plaintiff sold a cigar to a customer in the store, and when the customer struck a match to light the cigar an explosion occurred. It was conclusively proven that it was the gas that exploded. The Company was held liable.

In the opinion it was said: "The Company supplying the house of Thomas Crabb with artificial gas, a penetrating, elusive and explosive material, and hence one that was at any moment liable to become dangerous unless carefully guarded. The Company, therefore, owed a duty to all persons who might be injured by the gas, to use ordinary and adequate care in delivering the substance into the residence in question. Even the Company did not know of the cracked elbow at the time it was attached to and made a part of the conducting pipe from the street mains to the house; it did not know of this defect after the repeated calls for its repair; but still wholly failed to make the repair by removing the cracked elbow or by effectually closing the crack known to exist in it. Moreover, the Company's agent, after professing to have made a final examination, turned on the gas and assured the family that everything was now all right and that they might, therefore, rest secure, notwithstanding the strong odor of gas, which he told them must come from the lamp post on the street. No refinements of reasoning can show that such conduct was not culpable negligence."

In 1878 the municipality of Oil City, Pa., undertook to construct a sewer, parts of which passed under gas mains belonging to the Oil City Gas Company. The construction work probably weakened the gas mains. At any rate soon after the work started the odor of gas was plainly perceptible in the vicinity. The Company was notified of this fact and it made a search for leaks. None were found, or, if any were found, nothing was done to remedy the trouble. While affairs were in this condition Robinson, the city engineer, entered one of the sewers, just completed under his supervision, with a lighted lantern in his hand, whereupon an explosion of gas which had leaked from the pipes of the gas company, occurred and injured the engineer. Robinson brought suit against the Company, the case being known as Oil City Gas Company *v.* Robinson; reported in 99 Pa., reports, page 1.

It was held that the failure of the gas company to repair the mains was the proximate, and not the remote, cause of the accident and that the fact that the city contractor, in building the sewer, had disturbed and broken the gas pipe, had no effect to shift the cause. The plaintiff, however, was not permitted to recover for the reason that, in entering the sewer with a lighted lantern, with the knowledge that gas was escaping, he was guilty of contributory negligence. This fact saved the Company in this instance for the law does not permit one to recover damages where he himself has been guilty of negligence contributing to his injury. The question of contributory negligence will be taken up in full in a subsequent paper of this series. In spite of the fact that the plaintiff did not recover, the case serves to illustrate the duty which is placed upon a gas company when its pipes are leaking and that fact is brought to its attention.

Injury to Gas Pipe by Construction Work on Sewer.—In the case of "Aurora Gas Light Company *v.* Bishop;" 81 Ills, 493, it appeared from the evidence that the city of Aurora, Ills., in some winter days of 1893-4, constructed a system of sewers. The defendant

Company had its mains running along the same streets in which the sewer was placed. After the trenches were dug and the sewers laid, the mass of dirt taken out, which had in the meantime, by reason of the severely cold weather, became frozen, was thrown back into the trenches. Afterward, when the dirt thawed out, the whole body of it gradually settled in the trenches and carried with it the service pipes connecting the gas main with the plaintiff's building. In some places the service pipes were cracked or broken; in others, the service pipes being stronger, were pulled away from the gas mains at the joints; and in still other places the mains themselves were broken and cracked. The gas which escaped from the broken pipes penetrated the basements of the buildings along the street, among them the plaintiff's building, and in places found its way to the surface of the street. The gas which came to the surface of the street was sometimes ignited by sparks from the wheels of electric cars. On the second morning before the explosion on which this action was based, the plaintiff gave the Gas Company notice that there was gas in the building. The Company proceeded at once to locate and repair the leaks, and the odor of gas disappeared from the plaintiff's building. Another leak was discovered in the street and the Company's men were sent out to repair it. Meanwhile the tenant of the plaintiff's building sent word to the Company that gas was again escaping. But this information did not reach the men, who were searching for the leak in the street. Having discovered the place in the street where they thought the gas was escaping, they applied a torch to it to make sure. Immediately an explosion took place in the basement of the plaintiff's building which did the damage complained of. The flame was carried from the point of escape in the street to the plaintiff's building by means of an unused sewer.

The Company was held liable. It had notice of the defective condition of its pipe a long time prior to the date of the explosion. There were numerous breaks all over the city, and in the single block, in which the plaintiff's premises were located, there were 13 breaks in the main. The gas was continually permeating the basement of the adjoining buildings and escaping to the surface of the ground, where it burned for weeks at a time. Property owners were unable to protect themselves from the inconvenience and dangers of the situation. It was the duty of the Company to protect the public as far as possible from all damages attending the use of its product. The Company "must have known that the location of the sewer trench across its service pipes, and the manner in which the same was filled in by the city, could not but result in injury to its pipes. It was, therefore, its duty to see that its pipes were properly protected from injury. Failing in that duty, appellant (Company) must be held responsible for such damages as result to the property of others by reason of such neglect."

The rule with regard to repairing breaks is this: "If it occurs through its own fault, the Company is liable without notice. If it occurs through the fault of another, liability attaches as soon as the Company has had notice and time to repair."

The case of "Butcher *v.* Providence Gas Company;" 12 R. I., 149, was, in some respects, similar to the above case. In that case the injury complained of occurred through the escape of gas from mains alleged to have been damaged by the city of Providence in the construction of a sewer. It was there contended by defendant Company that it was the fault of the city, whose officers, in putting in a sewer, had not packed the dirt properly, and that the subsequent settling of the dirt had broken the defendant's pipe. The court, however, upheld an instruction to the effect that, if others than the defendant were at work around the pipes, a new duty was imposed on the de fendant to guard against the want of care in the others, and to use proper care in remedying defects caused by such want of care. It was said in the course of the opinion: "The defendant, in managing a dangerous element, was bound not only to exercise due care on the part of itself and its servants, but also to due care in preventing injury from the careless or wrongful meddling of others with its works. They could not interfere with, or prevent the city from building a sewer; but they had a right to and were bound to see that in restoring the earth to its place, their own pipes were properly supported, and, if injured, to see that the injury was repaired as soon as it could reasonably be done."

Fire Caused by Unusual Pressure.—The plaintiff in "Holton *v.* Campton Fuel and Light Company;" 32 Ky. Law Rep., 178; 105 S. W. Rep., 426, left one of the gas burners in his house burning low when he, with his wife, left the house to attend a dance at the house of one of his neighbors. Later in the evening an alarm of fire was given and, on hurrying home, the plaintiff found his house in flames. The flame from the gas burner shot up several feet. The plaintiff made no effort at that time to extinguish the gas, but devoted his energies to removing his furniture. On the trial the plaintff testified that the flow of gas was stronger at some times than at others, and that it was especially strong at night time. He proved by several of his neighbors that, at the time of the destruction of the house, the pressure was unusually strong. The plaintiff introduced a witness, a gas fitter by trade, who testifiod that about 1½ hours before the fire he tested the pressure in another house and found it to be above the reasonable and proper pressure.

In holding that the evidence was insufficient to render the Company liable the court said: "Had the appellant (plaintiff) extinguished the light entirely in his gas burner before leaving home, no injury could have possibly occurred or loss resulted to him. The Company had no control over the pipes or valves in appellant's house, nor over the apparatus which regulated the supply of gas to the fire burners. They were all under the exclusive control and management of the appellant. He knew how to operate the same. He knew that the pressure of the gas through the main varied, and that late in the evening it was stronger than at other times, and in the full possession of this knowledge, before leaving home, he attempted to so arrange the valve as to keep but a small fire during his absence. With the fire in this condition he left his home, and he offers no testimony as to what took place between that time and the time when his home was discovered on fire. The natural presumption from his testimony is that the house caught fire from the burning gas, but that is by no means certain. It might have been set on fire. It may have been entered during his absence, and the valve turned on so as to permit a full flow and pressure of gas through the pipe; or the valve may have been out of order so that it was not suitable to regulate the flow and pressure of the gas. Any or all of these theories is as plausible as that the fire was caused by the Gas Company's negligence in permitting an unusual and excessive flow of gas through the pipe."

Evidence not Sufficient to Render Company Liable.—The plaintiff, in "King *v.* Consolidated Gas Company;" 90 N. Y., App. Div., 166 (1904), a plumber by trade, had noticed the smell of gas in the tenement house in which he lived. The Gas Company sent two of its employees to examine the pipes in the cellar. After they had made their examination, upon being asked if any leak had been found in the cellar, one of them replied: "No; we can't find no leak in the cellar; the cellar is everything all right." About 10 minutes after they had gone, the plaintiff, at the request of the janitor, started for the cellar for the purpose of shutting the gas off in the house. He took a lighted candle and had no sooner entered the cellar than there was a heavy explosion which injured him badly. The employees of the Company returned after the explosion and found that a cap, covering an opening in a T-fixture, had been replaced with a cork since the first examination. It was apparent that there had been no leak at the time of the first examination, for the employees carried lighted candles while working. It was held that the Company could not be made to pay damages on the strength of this testimony. "It is quite evident," said the court, "that there was nothing proved by which the defendant, or its employees could be charged with negligence. There is nothing to show that any portion of the pipes maintained by the defendant was out of order, or that the escape of gas was caused by a leak in the pipes which the defendant was bound to maintain. The only evidence as to the condition of the defendant's pipes, is the testimony of the defendant's employees, who, on the second visit, discovered that a nut or cap that covered this fixture had come off and had been replaced by a cork. That such a condition did not exist when the defendant's employees visited the premises before the explosion is apparent from the fact that they went through the cellar with a lighted candle and there was no explosion. What caused this nut or cap to come off is purely a matter of conjecture, but whatever caused this condition it was certainly no fault of the defendant or its employees, and the Company was not responsible for the condition of this fixture, as it was connected with the gas pipes of the house and was not a portion of the pipes installed or maintained by the defendant. All that the defendant's agents were bound to do was to ascertain if the pipes maintained by the defendant were in proper order."

Liability of City for Explosion of Gas.—The evidence in an action against the city of New York showed that, for a day or so before the explosion, a plumber was at work in-and-about the premises of the plaintiff. He was making a connection between the drain pipe in

one of the two houses owned by the plaintiff and the sewer in the street. To make that connection a tunnel was cut from the house to the sewer pipe, the tunnel being cut so as not to disturb the surface of the pavement. Shortly after the work was completed a serious escape of gas was noticed. The police were notified and the information was sent to the Department of Public Works of the city of New York. One of the employees of the Water Department came upon the scene to search upon the street and sidewalk to ascertain if there was a leak in the highway. To make his examination he lighted a piece of paper, and, moving it along the surface of the sidewalk, he ignited a jet of escaping gas, thus making sure that there was a leak in the highway. When that discovery was made an attempt was made to extinguish the flame by covering it with dirt. Four or five minutes later the explosion occurred in the plaintiff's premises. It was claimed it might be inferred that the flame, started in the street by the city's employee, was carried through the tunnel into the cellar, thus causing the explosion of gas accumulated in the cellar. But there was nothing in the evidence to show that the employee had knowledge of the condition of the premises or of the existence of the tunnel. Nor was there anything to show that the act of the servant, in using a lighted paper as he did, was not the usual, ordinary and reasonable way in which to make examinations for leaks of gas pipes in the streets, nor that there was any other or different method which he might have used. Before negligence could be charged it was necessary to show that he had done something unusual, unnecessary or improper under the circumstances. No negligence being shown, the city could not be held liable. "Littman *v.* The Mayor;" 36 N.Y., App. Div., 189.

Effect of Agreement that Company Shall Not be Held Liable for Damage by Explosion or Fire.—In the case of "Bastian *v.* Keystone Gas Company;" 27 N. Y., App. Div., 584 (1898), it appeared that at the time the premises, occupied by the plaintiff, were vacated by the former tenant, the gas stove in the kitchen was disconnected and the pipe leading from the stove to the main pipe underneath the kitchen floor. The Company's gasfitter closed the opening in the main by screwing in an iron plug. When the plaintiff moved in he installed a wood burning stove in the kitchen. A day or two after his arrival his wife lighted a match for the purpose of starting a fire in the kitchen stove. Immediately there was an explosion, which severely injured the plaintiff's wife and wrecked the kitchen. The Company advanced no theory in explanation of the accident, except that it was suggested that some unknown person had entered the house just prior to the accident and opened the main. This improbable cause of the accident, however, was not supported by any evidence. It was held that the accident was due to the negligence of the Company's gas fitter and that the Company was liable.

For a defense the Company set up the contract on the back of the plaintiff's application which contained the following clause:

"The Company shall use all reasonable care and diligence to furnish a sufficient supply of gas, but if the supply of gas should fail, either partially or totally, from failure of wells or bursting of pipes, or if prevented by legal proceedings, or from any cause beyond the control of the Company, then the Company is not to be held liable for any damages or loss resulting therefrom; *neither is it to be held liable for damages to person or property resulting from explosion or fire, or for any other damages whatsoever arising or occurring from the use of the gas.*"

It was contended that the last clause of this provision, printed in italics, exempted the defendant from liability for the explosion. It was held that a proper construction of this clause would be that the defendant Company was not to be held liable for damages for accidents occurring from the use of gas; that the words "*use of the gas*" limited as well as controlled, all the preceding words of the clause. The explosion was not caused by the use of the gas in the ordinary sense. The accident was occasioned, not by the plaintiff's use of gas in the dwelling, but by the imperfect closing of the main under the kitchen. Therefore, this clause did not exempt the Company from liability. The defendant expressly insisted upon its right to make all connections between house mains and stoves, and having assumed this duty, it was bound to exercise due care in making these connections, and in seeing that the openings in the house were so tightly closed as to prevent the escape of gas into the dwelling; and for its negligent failure to perform this self imposed duty it was liable.

A CHARTER has been issued to the promoters of the Walcott Gas Company, of Shinglehouse, Pa. It is capitalized in $110,000.

Special English Correspondence.

COMMUNICATED BY NORTON H. HUMPHRYS.

SALISBURY, ENGLAND, August 10, 1911.

The Half Year's Accounts.—Commercial Valuation of Town Gas.—A One Sided Bargain.

At this period of the year, the attention of everyone either engaged or financially interested in the working of gas undertakings, is directed towards the question of how the accounts are going to turn out. Not many have as yet been issued to the shareholders, or otherwise published, but still sufficient information is forthcoming to show that the general experience is satisfactory, resulting in not merely full, but surplus profits. The chief factors concerned in this happy state of affairs are increased sales of gas, a good market for coke, and very much better prices for sulphate of ammonia. The public are being frantically warned by the Electricity Publicity Committee, as to the dangers and inconveniences to life, health and property that are supposed (by parties interested in electricity) to attend the use of coal gas. But the fact that they increase their consumption of gas, year by year, show that they prefer the solid experience of the past 70 years, to artfully veiled inuendo and suggestion. The Gas Light and Coke Company, of London, report an increased output of gas for the 6 months ended June 30, 1911, of close on to 5 per cent., as compared with the corresponding period of 1910. The South Metropolitan Gas Company, 2.6 per cent. The South Surburban Gas Company, 3.6 per cent., exclusive of additional consumption at the Festival of Empire Exhibition at the Crystal Palace, in connection with which large gas engines representing 2,750-horse power are in use. The Tottenham and Edmonton, over 6 per cent. As the results obtained by these Companies give an excellent index of the general state of affairs throughout the Kingdom, it is not too much to say that the aggregate increase will be in the neighborhood of 5 per cent. The actual increase, as represented by the number of new consumers, and the additional points of consumption brought into use during the half year, is considerably more, because the numerous improvements that are continually being introduced must tend to reduce consumption per point. This applies specially to the substitution of reflex incandescent lights for flat flames, but not exclusively, because similar improvements are being effected in heating, cooking and technical appliances. Look at the consumption of an average gas fire, for example, as compared with that of 10 or 20 years ago. Increased prices for coke may be identified with the labor of the Commercial Sections that are now a prominent feature in our District Gas Managers' Associations, by means of which every member receives a fortnightly or monthly list of stocks, selling prices, etc., for his district. The usual practice is to avoid printing the names of undertakings on these lists. Each one is distinguished by a number, and each member is furnished with a list for his own private use. Without the aid of the private list or key, the published figures cannot be located, and are of little use if they should happen to go astray and get into inquisitive hands for which they were not intended. Under the encouragement afforded by these sections, there has been, amongst other things, a steady development of the retail department, by making arrangements for supply of coke in any quantity, large or small, from a stiff paper bag containing 28 pounds, up to a 5-ton motor wagon load, at any residence or place of business in the district. A large share of the credit for enhanced prices of sulphate is due to the Sulphate of Ammonia Committee, an excellent institution having headquarters in London, and supported by makers in all parts of the country. It advertises, gives lectures, and prepares suitable pamphlets, instructions for use, etc., available for members, and pays its expenses by means of a small levy amounting to only a few pence per ton of sulphate made. Summing up the matter the increased sales may be ascribed to the utilization of modern commercial methods.

There appears to be an impression in some quarters that the coronation illuminations created extra demand sufficient to show on the year's working, but the actual fact is that the loss of consumption due to the stoppage of factories and places of business for two days was far more than sufficient to cover any extra consumption for illumination. The coronation told rather against the total sales than in favor of them.

An interesting communication from M. Grebel appears in one of the French gas serials, and it deals in the commercial valuation of coal gas. So far as incandescent lighting is concerned, it would appear that the photometer, the calorimeter, and all other known

methods are deficient in important respects. If used for fuel purposes the heating value as expressed in B. T. U. or in calories, gives a direct indication, but the same cannot be said of photometrical or of calorific value, when incandescent lighting is concerned. The temperature of the flame, which is a different thing, is the chief factor, and the author lays down as a general law, on the authority of "many observers," that the illuminating power of the mantle increases according to the fifth power of the temperature as reckoned from absolute zero. The importance of this is evident, as it would appear that a variation of 5 per cent. in temperature may mean about 30 per cent. in the light. A burner giving 19 candles at a temperature of 1,800° C. would give 26 candles at 1,900°, and 32 at 2,000° Incidentally this leads to two interesting conclusions. Comparative tests of different mantles should be made on one sample of gas, because very slight differences in constitution will affect the flame temperature. And regeneration as applied to furnaces, by means of which the initial temperature of the flame is increased, must be a powerful factor in the incandescent burner of the future It does not appear a very difficult matter in practice to raise the tem perature of the incoming air a matter of 100° by utilization of the hot products of combustion, and the result of so doing would be to increase the luminosity by approximately one-third. The author remarks that flame temperature is largely influenced by the quantity of air required for complete combustion, and that it is as easy to get a given high temperature, say 1,800° C., with a poor gas of less than 300 B. T. U., and requiring 2½ volumns of air, as with a rich gas of double the heating value, requiring 6 volumes of air. It is known that flame temperature has something to do with the photometrical value of the flat flame and of argand burners. The improvements in the way of adjusting pressure of gas, and the air supply, all point in the direction of preventing reduction of flame temperature. The regenerator burner was a direct attempt to improve photometrical value by increasing flame temperature. So it may eventually turn out that photometrical value, as ascertained by the established standard test, and flame temperature are not so remo te as the author appears to suppose, and that the photometer may afford some indirect indication of the efficiency of the gas in the incandescent burner.

The author points out that there are two ways of arriving at the efficiency of any given burner. We may ascertain the maximum efficiency afforded by the combustion of a given quantity of gas, measured either by cubic feet or by heat units. We can take the quantity that the burner is constructed to consume—3, 4, or 5 cubic feet per hour—or we can consume an appropriate number of B.T.U.'s—1,800, 2,400, or 3,000 per hour—and from the data so obtained can arrive at the duty afforded per cubic foot of gas or per 1,000 B.T.U.'s consumed. We can also take a given photometrical value, say 16 candles, or whatever quantity the burner to be tested is constructed to give, and find out the quantity of gas expressed in either of the ways just named required to produce the standard light. The Bunsen photometer is an example of the first, the Harcourt photometer of the second. In addition to these there is a third method not mentioned by the author. We can ignore a fixed rate of consumption or a fixed candle power and simply adjust the supply to give the best possible effect as indicated with the Argand by the length of the flame, in the flat flame by the size and shape, and in the incandescent by exactly filling the mantle. In either case the "duty" represents the practical value to the purchaser. A gas that gives 10 candles per cubic foot will be worth more than one that gives 9.

But all tests are affected by the personality of the burner. It is obvious from the foregoing that the best results will be furnished when the gas is completely burnt, with no more than the full complement of air indicated by analysis. If a uniform quality of gas is to be used, the burner must be so designed and constructed as to comply with these conditions. If various qualities of gas are to be used, the burner should be capable of adjustment, both in respect to gas and to air supply, and it looks as though the test burner of the future will have to provide or be provided with an accurate means of measuring the air supply, as for metering the gas. A burner of fixed parts may give 100 per cent. efficiency with one particular brand of gas, but a slight variation in specific gravity or composition, such as may occur within the usual methods of manufacture, may be sufficient to affect the efficiency to a serious extent. This point is specially interesting to those who are selling under a minimum candle power, who have contracted to supply a fixed quantity; it may be 3,000, 300 or 30-candle power posts. What is wanted is a burner that can be adjusted to give 100 per cent. efficiency, irrespective of the quality or composition of the gas.

There is one difficulty in connection with the supply of apparatus on hire and it applies equally to cookers, boilers, high power lamps and anything else. Hiring out appliances is not, on its own bat, a profitable businesss. No individual or company have ever yet made a fortune at it. The rents that the public are willing to pay are barely sufficient to cover wear and tear, interest on outlay and incidental expenses and repairs. The object in view in developing this department is increased sales per service or per mile of main, which means a more than proportionate increase of profit. But the inherent defect of the system is that, while the obligation incurred on the part of the company is fixed and definite, there is no corresponding obligation on the part of the consumer. In some districts the plan works satisfactorily, but in others the consumer badly needs education as to his share of the responsibility. There is sure to be a good demand for anything supplied on easy terms, and if the gas company announce that they are prepared to fit up a slot meter, cooker and three lights free of first cost, their fitters are sure to be in for a busy time. The bulk of the applicants intend to and do use gas regularly, in sufficient quantity to give a fair return on the outlay. But there are a number of doubtfuls that for one reason or another will not use enough to give a fair return. I have heard the plan advocated of charging a moderate but not exorbitant initial fee for each point fixed, on the ground that it would prevent people from ordering stuff that they do not intend to use. It would get rid of the customer who, after having secured a complete fit up, innocently remarks that they are going away for 6 months in a fortnight's time. People believe in getting all they can and apply for the full complement, whether they intend to use it or not, and the party who really only requires one boiling ring and one light, or who live with their father-in-law half the week, come in and cannot be distinguished from the *bona fide* applicant. In a north country town it was found that consumers (a misnomer in this case) were using the cooker supplied by the gas authority as a store cupboard instead of for its legitimate purpose. One way of meeting the difficulty is to require a guarantee for a consumption sufficient to insure a profitable return on the investment. In most districts, however, it will be found that these doubtful cases do not average 5 per cent. of the whole, and that it is wiser to deal direct with such cases as they arise, rather than create vexation and annoyance by stringent rules and agreements applied to all alike. My own practice is to include in the agreement, signed by every slot user, an undertaking to regularly use the gas, and to encourage observance of this clause by a small rebate to all users of over 10,000 cubic feet per annum, paid in cash at the close of each year. Many customers make sure of this by using up to 15,000 or 16,000. When this list is made up users of less than 7,000 are marked off for personal visit and inquiry. This at once largely reduces the list, as all sorts of curious reasons are ascertained. They are in from the country and did not know how to use gas, or they had never used a cooker before, or had been told that the meat would taste of gas, etc. The point is, not to threaten to remove the apparatus until all prospect of getting it used is hopeless. If necessary, a circular giving notice of removal, failing a minimum consumption, is issued, and as a last resource acted upon. But the number actually cut off does not average 1 in 500 consumers per annum. It is well to remember that the loss caused by a doubtful is just as real, whether the average over the whole shows a profit or not.

Management & Commercial Methods.

THE STRICKLER PIPE COUPLING.—The Messrs. W. W. Strickler & Brothers, of Columbus, are putting on the market a pipe coupling for mains carrying either artificial or natural gas, and oil, steam or water supply, which is finding considerable favor with engineers in charge of such carriers, in that the claims for it are based not only on account of reduced installation costs, but also in respect of its labor saving results.

The device consists of a steel center ring embracing the abutting ends of the joints of pipe, the center ring being belled or flared slightly at the ends to accommodate gaskets of rubber, asbestos or other packing substance; two compression rings, having a series of graduated inclines, which inclines are "rights" on one compression ring and "lefts" on the other, the rings being cupped to accommodate the gaskets. Embracing these assembled parts is an outer ring or cage of malleable iron having lugs to correspond with the inclines on compression rings. In assembling the coupling the parts de-

scribed are brought together over the abutting ends of pipe, and the outer cage rotated (a spanner wrench being used) which causes it to walk up the inclines on the right and left compression rings, drawing the latter in and compressing the gaskets uniformly and with but a slight movement of the outer cage. The right and left compression rings form a gradual tapered wedge. A spanner wrench with ratchet being employed, one man can tighten up the largest size coupling almost instantly, the arc described by the outer cage being very small, as can be seen in the illustration.

This type of coupling is installed in a number of lines under high pressure and in demonstrations has held 1,600 pounds. Being set up by one man, in the opinion of pipe line men it will greatly reduce the installation costs on lines both in main line and city work.

Recent Patent Issues.

Prepared for the American Gas Light Journal by Royal E. Burnham, solicitor of patents and counselor in patent causes, 833 Bond Building, Washington, D. C., from whom illustrations and specifications of any patent mentioned below may be obtained for 10 cents.

999,973. Gas Purifier. J. P. Farmer, Portland, Ore., assignor of one-fourth to P. J. G. Kleppin, and one-fourth to J. Wick, same place.

1,000,047. Mica Chimney. A. P. Storrs, Owego, N. Y., assignor to Storrs Mica Company, same place.

1,000,048. Burner. A. P. Storrs, Owego, N. Y., assignor to Storrs Mica Company, same place.

1,000,200. Box for Packing Mantles for Incandescent Gas Lighting. H. Schmalland, Steglitz, Germany, assignor to Deutsche Gasgluhlicht Aktien Gesellschaft, Berlin, Germany.

Items of Interest
FROM VARIOUS LOCALITIES.

The Gas Machinery Company, of Cleveland, O., has been awarded the contract to install in the works of the Great Falls (Mont.) Gas Company a new 5-foot, double-superheater water gas apparatus. The Great Falls folks have heretofore manufactured coal gas exclusively, and the water gas installation is intended as an assurance that the customers of the concern will have no cause whatever for complaint.

The prospect of litigation between the authorities and the Manitowoc (Wis.) Gas Company, regarding the failure of the city to dock the river lots adjoining the Company's property, has been dissipated by an action agreed upon through which the city agrees to construct the docking, and the Company agrees to make a lease thereof for 25 years. Our correspondent further adds: "If the City Council withdraws a recent resolution, under which it was proposed to appeal to the Railroad Commission for an order decreasing the Company's selling rate, the Company will, in all likelihood, voluntarily put the rate at $1 per 1,000. The owners of the gas plant have, to a certainty, merely through their construction of the plant, done much towards advancing the material interests of this fast-growing place; and to many of us the worse than indifference shown by the local authorities to the gas industry is a matter hard to explain."

The Tri-City Gas Company, of Gadsden, Ala., is arranging to extend its main system to and through the streets of Alabama City and Attalla. The Councils of the named places have granted the necessary consents.

The Hamilton (O.) Gas and Electric Company, through President Thomas, is proposing to Mayor Rothwell that if the city will agree to discontinue the practice of charging a monthly meter rent (the city also operates a lighting plant) if the city will adopt a like policy.

The Bonham (Tex.) Electric and Gas Company has awarded the contract for the construction of its new building, corner of Totten and Cherry, to Mr. F. Russell. The plans provide for a building of pressed brick, the flooring to be of the concrete type.

"Frank B. M.," writing from Trenton, N. J., under date of the 18th inst., says: "Some days ago the Common Council of our opposite Delaware neighbors, Morrisville, Pa., famous for its output of blooded horses, has granted permission to the Bucks County Public Service Company the right to there construct and operate a gas plant. The franchise is to run for 30 years, with privilege of renewal. The rate is fixed at a maximum of $1.50 per 1,000, the same to be reduced 8 cents per 1,000 until the population shall reach 5,000, after which event the maximum shall be $1.25 per 1,000. The borough has the right to purchase the plant after a period of 10 years, by paying therefor the actual cost of the entire system, plus 10 per cent.; and the Company is required to file a statement of construction expenditure within 90 days following completion of the system. It is also agreed that these rental or royalty sums shall be paid, under the following stipulations: When the population reaches 3,000, $200 per annum; when the population exceeds, 3,000, $300 per annum. Thereafter the annual payments shall increase $100 per year with each increase of 1,000 in the population."

Mr. P. E. Carpenter, of Crooksville, O., has been empowered by the Deavertown (O.) Council to construct and operate a gas plant in that village.

The strike of the stokers in the service of the Louisville (Ky.) Gas Company has been declared off. The main points in the contention were: An increase of 25 cents in wages, 10 hours to constitute a day's work.

Without a doubt this is the queerest bit of advice or counsel that ever appeared in a newspaper that appealed to a civilized community for its existence. Only on one ground does it appear that sensible reason existed or could be given for the counselling, in that the proprietors of the paper were either paid for its printing or that its proprietors are largely interested in the welfare of the local electric lighting concern, through ownership of shares therein. The matter (it was the leading editorial in the Toronto *Telegram* of the 15th inst.) referred to is appended:

"Electric lamps should replace gas as the light in every nook and corner of Toronto hotels, great and small.

"Visitors accustomed to coal oil lamps serve as a reproof for the Company of 10 or a dozen visitors who blow out the gas and supply a useless sacrifice of life every year.

"Visitors should not be exposed to danger and death in order to increase the profits of hotelkeepers whose revenues enable them to equip their houses with electric light."

Vice-President and General Manager Butterworth and his associates are again in evidence with a positive example of the modern way in which to conduct their business. This time (the Detroit City Gas Company is the aggregation under consideration) it is another voluntary reduction in the selling rates that constitutes the evidence, and the schedule that goes into effect next Monday certainly shows that Detroit's Gas Company means to be in the front ranks of the many corporations the one aim of which is to keep that beautiful city in line for continuous business advancement. The official notice respecting the concession is herewith reproduced:

In keeping with the practice and policy of this Company in the past, to lower its selling prices of gas whenever the increased use of

gas by our customers enables us to do so, we have made a further reduction, to the following prices, to take effect September 1, 1911:

Quantities Used per Month, Cubic Feet.	Rate per 1,000 Cubic Feet.
Less than 50,000	85 cents.
The second 50,000	75 "
The next 100,000	65 "
All over 200,000	55 "
Gas used in gas engines	65 "

A discount of 10 per cent. per 1,000 cubic feet will be allowed from these prices on all bills paid within the discount periods named thereon.

MR. E. E. WITHERBY, President, of the E. E. Witherby Company, writing under date of the 18th inst., says, among other things, that the South Shore Gas Company has been purchased (lock, stock and barrel) save the shares of stock owned by the E. E. Witherby Company, and is now in control of the capitalists owning the Long Island Lighting Company, which corporation has possession of all the gas and electric lighting interests in that section of Loug Island, save the Bay Shore Company, the management of which, by-the-way, does not seem over energetic. Mr. O'dell and the others originally interested in the venture, are no longer concerned in it, and the way in which Mr. Phillips (who controls the situation for the present owners) is going after things, betokens that the South Shore Gas Company is in good hands. We shall retain our interest in it. I am still operating the Company, which I am sure has a great future.

THERE cannot be a doubt over the future—a near one at that—of the South Shore Gas Company, nor can we get over the thought that the local operators thereof should be Mr. McDonald and his associates in the Nassau and Suffolk Lighting Company.

WE are indebted to the attention of Mr. F. A. Miller, the up-to date General Manager of the S. R. Dresser Manufacturing Company, for illustrations showing the Dresser all-steel coupling, style 36, and the long sleeve sort, 30. A feature in the small sizes, that meets with general favor, is the pressed steel follower, which has done so much to popularize the larger sizes of the Dresser standard apparatus.

HERE is something new in the use of gas—at least it is new to us—the mention of which came to us from La Grange, Ills., some days ago: "There are not hours enough in the day to accommodate some of the croquet players of La Grange, or probably it would be more accurate to say that the players are too busy during the day to enjoy the game as they would like to. With the shorter evenings cutting down the playing time, R. C. Gravely, District Manager for the Western United Gas and Electric Company, conceived the idea of lighting up the grounds artificially. Those who have had occasion to pass anywhere near the grounds of Dr. W. M. Lemon, corner of Ashland and Cossitt, in the evening, have doubtless noted the lighted grounds and heard the click of the balls. The grounds are so well lighted that the players can continue their games until all hours, and Mr. Gravely is pointing to the place as another demonstration of the practical use of gas for outdoor illumination. His experiment has proved so successful that he is thinking of installing arcs to light the golf grounds."

THE Parr Gas Calorimeter, which is being manufactured by the Standard Calorimeter Company, of East Moline, Ills., is finding quite some favor with gas men, especially those in the West. Notable amongst its users are these: The Galesburg Railway and Light Co.; the Illinois Traction System; and the Decatur Railway and Light Co., all in the State of Illinois.

ONE of the most attractive places in the business district of New Haven, Conn., at night, is the office of the New Haven Gas Light Company, on Crown street. In front of the entrance two artistic double-arm posts have been set, which carry Humphrey arcs of the newest inverted type.

THE Selectmen of Randolph, Mass., have unanimously accepted the proposition of the Brockton Gas Company to supply gas to the residents of the first named place. There were two other applicants for the right, but the determination reached was unanimous.

THE improvements that are to be made on the plant of the Springfield (Mass.) Gas Light Company, embrace the placing of a tar distilling system, which determination will not convey much comfort to the Coal Tar Products Company. While we have no positive information on the subject, we believe the Springfield folks have determined to rebuild the generating house on the lines incident to the working of vertical benches.

"B. F. M.," writing under date of the 18th inst., incloses the following account of an auto trip, under the auspices of the Tenney syndicate, which trip was taken some days prior to the inclosure from our correspondent: "Guests of the Tenney interests, which corporation controls and operates not quite a score of gas and electric lighting properties in Massachusetts, recently enjoyed what might well be called a flight along the Massachusetts North Shore. The trip was made in the autos owned by the Company, the newspaper men being accompanied by the chief executives of the syndicate, and the managers of the different companies composing it. The trip averaged 100 miles, but was much longer for those who came from the western part of the State. President Tenney and General Manager Bliss were the hosts, assisted by their several executive heads. The day was a most delightful one, the flawless afternoon granted by the weather man making it possible for everyone to enjoy the occasion to its fullest degree. The programme laid out was a most complete one and above criticism. The different managers with their guests reported at the main offices of the syndicate in Malden at the noon hour and during the short respite were given an opportunity to inspect the finely appointed quarters of the Company.

"At 12:45 o'clock the 12 machines took their respective positions and the long line moved off with President Tenney and Gen. Bliss in the vanguard. The route took the party through Everett and Chelsea to Revere, where the boulevard along the ocean was followed to the Lynnway club, formerly the Point of Pines. Here the first stop was made and dainty individual lunches distributed before the start, inspected and devoured with a keen relish. Here also photographs were taken of the party, composed of some 40 people, and when the machines were again called into use they were lined up in a half circle and a second photograph taken of the party before the journey was resumed.

"The route from the Lynnway Club lay through the city of Lynn to Swampscott, and out around Marblehead Neck, where another stop was made to give the party a chance to view the spouting horn and watch the progress of the yacht races for a few minutes. Marblehead harbor was alive with craft, large and small, cruising about with all possible canvas set. The sight was a most interesting one and new to some of those who came on from the western part of the State. From here the pageant passed swiftly on through Marblehead to Salem, where the machines threaded their way through the narrow thoroughfares to Beverly and thence down along the shore to Beverly Cove, Beverly Farms, Manchester to Gloucester, where another stop was made to give the party an opportunity to inspect the four monster battleships which rode silently at another not far distant, looking sombre in their coats of grey and more like fortresses than modern fighting machines floating on the glistening waves.

"Continuing, the route wound about over smooth roads flanked on either side by magnificent summer residences, the most interesting, perhaps, being the summer capitol and the grounds of millionaire Frick, the steel magnate, being laid out at Pride's Crossing. On every hand might be recognized the artistic touch of the landscape gardener, who has transformed the whole north shore into a veritable paradise. Passing on through West Gloucester, Hamilton and Wenham, where a glimpse of the grounds of the Myopia Hunt club was caught with a game of polo in progress, as the machines flitted onward to Essex and Danvers, and from that town to Ferncroft Inn in Middleton, where a halt was made.

"Here a sumptous dinner was enjoyed. The party arrived about 6 o'clock and remained until 9, when farewells were said and the party broke up to return to their respective cities. Proprietor Mansfield easily sustained his reputation, for the repast eaten was the acme of the culinary art. Everything was in readiness when the party arrived and the long drive along the shore in the ocean breezes had whetted every appetite to a razor edge. No dish was left untasted and everyone kept busy until the dictates of the innerman had been satisfied. An orchestra furnished music and the members of the party took advantage of the opportunity to cement newly formed friendships, with the result that the hours passed swiftly by, and when the call came to re-embark for the homeward journey, all were loath to part from such congenial company. Before leaving, the 'boys' voiced their appreciation of the days' entertainment which found expression in most glowing tributes to the hospitality of President Tenney and Gen. Bliss and their able corps of executives."

The Market for Gas Securities.

The net result in the trading in Consolidated for the week is a loss of 2½ points in the bid price, the quotation at the opening to-day (Friday) being 133½ to 134. There is nothing to say about the slump, save that there is no reason whatever for it. To the contrary, there is every good reason why the shares should be many, many points higher.

Brooklyn Union is one point higher in the bid than Consolidated, the bid to-day at opening having been 134½. This stock, too, is much below its real value. The out-of-town shares hold their ratings in fair shape, nevertheless we submit that Laclede (common) at 104 bid, and Peoples, of Chicago, at 103 bid, are vastly cheap for securities returning 7 per cent. Washington (D. C.) is 444, bid.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

115 BROADWAY, NEW YORK CITY.

AUGUST 28.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share:

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked*
Consolidated Gas Co.	$73,177,000	100	133¼	134
Central Union Gas Co.—				
1st 5's, due 1972, J. & J.	8,000,000	1,000	103	105
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	115	118
Mutual Gas Co.	3,500,000	100	155	165
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	100	101½
New York & Richmond Gas Co (Staten Island)	1,500,000	100	35	50
1st Mtg. Gold Bds. 5 p. ct.	1,000,000	—	98½	100½
New York and East River—				
1st 5's, due 1944, J. & J.	3,500,000	1,000	103	105
Con. 5's, due 1945, J. & J.	1,500,000	—	95	100
Northern Union—				
1st 5's, due 1927, J. & J.	1,250,000	1,000	94	100
Standard	5,000,000	100	50	70
Preferred	5,000,000	100	70	100
1st Mtg. 5's, due 1930, M. & N.	1,500,000	1,000	103	105
The Brooklyn Union	15,000,000	1,000	134½	140
1st Con. 5's, due 1948, M. & N.	15,000,000	—	106¾	107
Yonkers	299,650	500	130	—
Out-of-Town Companies.				
Bay State	50,000,000	50	⅝	¼
" Income Bonds	2,000,000	1,000	—	75
Binghampton Gas Works	450,000	100	—	—
" 1st Mtg. 5's	500,000	1,000	95	100
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
Bonds, 5's	5,250,000	1,000	50	60
Capital, Sacramento	500,000	50	—	35
Bonds (6's)	150,000	1,000	—	—
Chicago Gas Co. Guaranteed Gold Bonds	7,660,000	1,000	104	106¼
Cincinnati Gas and Electric Co.	29,500,000	100	92	93
Columbus (O.) Gas Co., 1st Mortgage Bonds	1,500,000	1,000	96	98
Columbus (O.) Gas Lt. & Heating Co.	1,682,750	100	90½	91
Preferred	3,026,500	100	75½	80
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	13,460,084	100	106½	—
Mortgages, 5's	3,400,000	—	89	100
Chesapeake, 1st 6's	1,000,000	—	—	—
Equitable, 1st 6's	910,000	—	—	—
Consolidated, 1st 5's	1,490,000	—	—	112
Consolidated Gas Co. of N. J.	1,000,000	100	15	—
Con. Mtg. 5's	976,000	1,000	92	95
Bonds	75,000	—	—	100
Denver Gas and Electric	3,500,000	—	102	105
Detroit City Gas Co.	6,580,000	—	—	50
" Prior Lien 5's	5,619,000	1,000	97	100½
Detroit Gas Co., 5's	881,000	1,000	75	80
Equitable Gas & Fuel Co., Chicago, Bonds	2,000,000	1,000	—	101
Essex and Hudson Gas Co.	6,500,000	—	39	40
Fort Wayne	2,000,000	—	—	—
" Bonds	2,000,000	—	55	—
Grand Rapids Gas Light Co., 1st Mtg. 5's	1,350,000	1,000	100	101
Hartford	750,000	25	190	200
Hudson County Gas Co., of New Jersey	10,500,000	—	112	113½
" Bonds, 5's	10,500,000	—	108	108½
Indianapolis	2,000,000	—	78	83
" Bonds, 5's	2,650,000	—	104½	105
Jackson Gas Co.	250,000	50	82	—
" 1st Mtg. 5's	290,000	1,000	97	100
Kansas City Gas Light Co., of Missouri	5,000,000	100	—	36
Bonds, 1st 5's	3,822,000	1,000	102	104
Laclede Gas Co., St. Louis.	10,000,000	100	104	104½
Preferred	2,500,000	100	94½	102
Bonds	10,000,000	1,000	102½	103
Lafayette Gas Co., Ind.	1,000,000	100	—	60
Bonds	1,000,000	1,000	60	65
Louisville	2,370,000	50	143	145
Madison Gas and Electric Co.				
" 1st Mtg. 6's	400,000	1,000	106	108½
Massachusetts Gas Companies, of Boston	25,000,000	100	93	93¼
Preferred	25,000,000	100	98	98¼
Montreal Gas Co., Canada	2,000,000	100	218	218½
Nashville Gas Light Co.	1,000,000	100	110	—
Newark, N. J., Con. Gas Co.	6,000,000	—	56	58
Bonds, 6's	6,000,000	—	137	138
New Haven Gas Co.	2,000,000	25	200	—
Peoples Gas Lt. & Coke Co., Chicago	25,000,000	100	103	103¼
1st Mortgage	20,100,000	1,000	—	—
2d "	2,500,000	1,000	104	—
Rochester Gas & Electric Co.	2,150,000	50	88	—
Preferred	2,150,000	50	118	—
Consolidated 5's	2,000,000	—	104¼	105½
San Francisco Gas Co., Cal.	15,500,000	—	—	—
St. Joseph Gas Co.—				
1st Mtg. 5's	1,000,000	1,000	100	102
St. Paul Gas Light Co.	2,500,000	100	—	—
1st Mortgages, 6's	850,000	1,000	104	106
Extension, 6's	600,000	1,000	112¼	115
General Mortgage, 5's	3,447,000	1,000	97	98
Syracuse Gas Co., N. Y.	1,975,000	100	50	55
Bonds	2,047,000	1,000	101	103
Washington (D. C.) Gas Co.	1,800,000	200	443¼	443½
1st Mortgage, 6's	600,000	—	—	—
Western Gas Co., Milwaukee	4,000,000	—	—	—
Wilmington (Del.) Gas Co.	600,000	50	351	—

MEETING TIMES OF THE VARIOUS GAS ASSOCIATIONS.

American Gas Institute.—Annual meeting, October 18, 19, 20, 21, 1911. St. Louis, Mo. Officers: President, Donald McDonald, Louisville, Ky. Secretary, A. B. Beadle, 29 West 39th st., N. Y. City.

Canadian Gas Association.—Annual meeting, ———— Officers: President, Arthur Hewitt, Toronto, Ont.; Secretary and Treasurer, John Keillor, Hamilton, Ont.

Empire State Gas and Electric Association.—Annual meeting, Nov., 1911. New York City. Officers: President, M. J. Brayton, Utica, N. Y.; Secretary, C. H. B. Chapin, 29 W. 39th street. New York City.

Guild of Gas Managers of New England.—Annual meeting, March, 1912. Young's Hotel, Boston; monthly meeting, second Saturday. Officers: President, Walter G. Africa, Manchester, N. H.; Secretary, H. K. Morrison, Brockton, Mass.

Illinois Gas Association.—Annual meeting, time, March, 1912, Chicago, Ills. Officers: President, C. B. Strohn, Elgin, Ills.; Secretary-Treasurer, F. E. Newberry, Dixon, Ills.

Illuminating Engineering Society.—Annual meeting, Sept. 25, 26, 27, 1911, Chicago, Ills. Meetings of Sections, monthly. Pres't, A. E. Kennelly, Boston, Mass.; Secretary, Preston S Millar, 29 W. 39th street, N. Y. City. Sections: New York, Secretary, Albert J. Marshall, 36 West 39th street. New England, Secretary, W. S. Farrow, 1290 Massachusetts avenue, Cambridge, Mass. Philadelphia, Secretary, S. B. Eichengreen, Broad and Arch streets. Chicago, Secretary, F. H. Bernhard, Marquette Building.

Indiana Gas Association.—Annual meeting, Jan. 17 and 18, 1912, Indianapolis. Officers: President, S. E. Mulholland, Fort Wayne; Vice-President, Howard L. Olds, Indianapolis; Secretary-Treasurer, Philmer Eves, Indianapolis.

Iowa District Gas Association.—Annual meeting, time, May, ——, 1912; Clinton, Ia. Officers: President, G. W. Clabaugh, Omaha, Neb.; Secretary and Treasurer, G. I. Vincent, Des Moines, Ia.

Kansas Gas, Water and Electric Light Association.—Annual meeting, time, ———— Wichita, Kas. Officers: President, W. A. Scothorn, Hutchinson, Kas.; Secretary and Treasurer, J. D. Nicholson, Newton, Kas.

Michigan Gas Association.—Annual meeting, time, Sept. 20, 21, 22, 1911; Detroit, Mich. Officers: President, A. P. Ewing, Detroit, Mich.; Secretary-Treasurer, Glenn R. Chamberlain, Grand Rapids, Mich.

Missouri Electric Light, Gas, Water Works and Street Railway Association.—Annual meeting, April, 1912; St. Louis, Mo. Officers: President, F. E. Murray, Louisiana Mo.; Secretary and Treasurer, N. J. Cunningham, Springfield, Mo.

National Commercial Gas Association.—Annual meeting, October 23-28, 1911. Denver, Officers: President, C. N. Stannard, Denver; Secretary, Louis Stotz, 29 West 39th street, New York City.

Natural Gas Association.—Annual meeting, May, 1912, Kansas City, Mo.; Officers: President, A. B. Macbeth, Independence, Kas. Secretary, T. C. Jones, Delaware, O.

New England Gas Association.—Annual meeting, third Wednesday in February, 1912; Boston. Officers: President, J. A. Coffin, Gloucester, Mass.; Secretary-Treasurer, N. W. Gifford, East Boston, Mass.

New Jersey State Gas Association.—President, William H. Pettes, Newark, N. J.; Secretary-Treasurer, Arthur H. Osborn, Belmar, N. J.

Ohio Gas Association.—Annual meeting, February 6 and 7, 1912, Columbus, O.; President, John M. Garard, Columbus, O.; Secretary-Treasurer, T. C. Jones, Delaware, O.

Pacific Coast Gas Association.—Annual meeting, Sept. 19, 20, 21 and 22, 1911, Oakland, Cal. Officers: President, F. A. Leach, Jr., Oakland, Cal.; Vice President, W. Baurhyte, Los Angeles, Cal.; Secretary-Treasurer, John A. Britton, 445 Sutter street, San Francisco, Cal.

Pennsylvania Gas Association.—Annual meeting, April, 1912, Williamsport, Pa. Officers President, C. W. Butterworth, Millon, Pa; Secretary-Treasurer, William H. Merritt, Lebanon, Pa.

Society of Gas Lighting.—Annual meeting, December, 1911; monthly meeting, second Thursday. Place, New York City. Officers: President, Fred. S. Benson; Secretary, George G. Ramsdell, 254 West 89th street, New York city.

Southern Gas Association.—Annual meeting, April, 1912, Jacksonville, Fla. Officers, President, H. B. Hoyt, Jacksonville, Fla.; Secretary-Treasurer, E. D. Brewer, Atlanta, Ga.

Southwestern Electrical and Gas Association.—Annual meeting. April 27, 28, 29, 1912; Houston, Tex. Officers: President, J. E. Carroll, Beaumont, Tex.; Secretary, D. G. Fisher, Dallas, Tex.

Wisconsin Gas Association.—Annual meeting, May 15 and 16, 1912, Milwaukee, Wis. Officers: President, H. M. Buck, Waukesha, Wis.; Secretary-Treasurer, Henry Harmon. Milwaukee, Wis.